IMPACT OF E-HRM: A STUDY IN SELECT INDIAN ORGANISATIONS

A

Thesis

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By

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DECLARATION

I declare that the thesis entitled "Impact of e-HRM: A Study in Select Indian Organizations" has been prepared by me under the guidance of Dr. Mridula Mishra, Professor of Lovely Faculty of Business & Arts, Lovely Professional University. No part of this thesis has formed the basis for the award of any degree or fellowship previously.

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CERTIFICATE

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ABSTRACT

Electronic human resource management (E-HRM) is by and large a intentional initiative by HR function to navigate the organization in the information and communication era by unfettering itself from every day operational, repetitive necessities and to make it more in accord with the decision making, understanding of the employees, preparing change ready workforce, knowledge management, employer brand and center of excellence. Technological changes and advancement is an effective force towards exemplar shift of transactional and traditional HRM function towards digitisation simultaneously can achieve transformational level and aspire to be a strategic partner of business. In initial days use of information and communication technology in human resource function was basically deployed for purposes of improving transactional and traditional HR processes and empowering different stakeholders to access distributed HR services. With passage of time digitization had facilitated transformational changes and towards strategic orientation of HR function but the number of organization having this approach is limited to select few.

E-HRM is an initiative that empowers managers and employees to access HR services in digital platform and not to be dependent on HR executives using pen and paper. Service recipient has the flexibility to access services on anywhere any time in 24*7 mode. This facilitates HR staff to focus less on the operational and more on the strategic elements of HR and allowing organizations to reengineer HR function and be lean and mean as the administrative burden is lightened. It is presumed that, e-HRM provides competency to HRM department to act as a strategic business partner of the enterprise. ICT provides services at lightning speed, rate of HRM transaction, dissemination and compilation is higher than the traditional system. E-HRM reduces barrier of communication, reduces cost, improves flexibility of services, provides a platform of employee participation, an initial step towards paperless office and makes easy to administer HRM function. The spurt of knowledge economy and clubbing of world through network has resulted in integrated global economy and there have been substantial rise in inter and intra organizational networks. These interlinked organizations require mechanism and function that is compatible with requirement of different stakeholders of these organizations, and e-HRM has to play a major role. Taking account of the business perspective, digitization of HR

function is evident, and application of different hardware and software tools are natural so that it can be available at any time in any place, as it enables continuous interaction between the employees and the organization.

The organizations utilizing the appropriate mechanism, process and instruments of e-HRM, can act as a strategic partner and facilitate the organization in achieving vision, mission and corporate objectives. Research finding overseas shows that most organizations in technical sense try to exploit e-HRM fully but in practice its application is limited to operational or relational e- HRM i.e. it is limited to narrow range of functions especially those in administrative management of pay roll, employee record management (operational) or human resource planning, recruitment, selection, training, performance management, compensation (relational), but there is complete dearth of literature which shows application of e-HRM in transformational form or higher level needs of organization. But present requirement is to be helpful in achieving business strategy, contribute financially, and help the organization in improving stakeholder's satisfaction especially internal. HRM function can provide these leverages when HR mechanism, process and services have been digitized and integrated with all other functions like marketing, operations, finance, information technology (IT) of the organization. This will make HR function more proactive not just a service department only concerned with providing services to other functions. To achieve all these fate only application of information and communication technology cannot do wonders but top management and architects of e-HRM should be cautious for its successful implementation, due attention must be paid to the culture of HR department, mechanism and service delivery of HR process, technology adopted, roles and responsibilities of individuals performing HR activities, growth needs, devotion and competencies of the work force. For making it successful HR and IT professional has to support the system at every step.

Research is undertaken to seek answers of problem when there is no empirical evidence of the problem which organization faces. Application of ICT in HR function started long ago in Indian organizations but research in e-HRM has been a new trend. Regardless of marked progress of e-HRM in recent past but due to lack of pertinent empirical study there is complete unawareness about the present level of e-HRM, instruments and tools being used in Indian organizations.

Literature review clearly identifies research problem and research gap related to impact of e-HRM on strategic contribution, financial contribution, stakeholder satisfaction in Indian organizations as there is complete dearth of study in context to these dimensions of e-HRM.This research is exploratory in nature as it tries to gain familiarity with e-HRM in present context and study is somewhat descriptive as data has been compiled from select Indian organisations, after interpretation different conclusions have been extracted. A major intention of this research study is to contribute to the broader research community by generating new knowledge and enhancing existing knowledge base, as well as to develop and validate a questionnaire that could assess impact of e-HRM. Furthermore, the study addresses recent e-HRM practices in Indian organisations, Indian work context and viewpoint by focusing on experience of employees of Indian organisations. This study provides possible managerial implication and raise awareness of possible stumbling blocks of implementation of e-HRM.

While taking e-HRM as a research topic and formulating measurable constructs was a big challenge. The study had utilized non- probability sampling. Eight sample organizations had been selected based on judgment sampling and participants (respondents) were selected based on convenience sampling technique. Compiling information from the select eight organizations had been a challenge as sometime respondents (employees) had been skeptical of motto of the research and fear of breach of service code of conduct. Facing all the hurdles as and when it appeared, a comprehensive research was conducted. To measure different e-HRM attribute, questionnaire was formulated, response sought from operatives, supervisors, and managers of select eight Indian organizations. Factor analysis, one sample t- test, Paired sample t- test, one way ANOVA, and correlation and regression analysis has been used as an statistical tool of measurement and data analysis,

This study has very wide application for business organizations. The study analyses changes in the job profile of HR professionals the impacts of e-HRM on organizational life of employee. Different attributes of e-HEM has been compared private vis a vis pubic, simultaneously comparison has been done manufacturing/ mining vis a vis services. Comparative study has been also made between select organizations taking different attributes of e-HRM one by one. Stakeholder's satisfaction has been also compared with different demographic variables. This

study assesses the impact of e-HRM on employee empowerment, cost, and administrative burden reduction of HR function and to the extent it is easy and useful to use. Research finding shows extent to which e-HRM had been successful in achieving business strategy, financial growth, and internal stake holder's satisfaction in Indian organizations. The study ends with conclusion, recommendation, managerial implications and scope for further research which is likely to be very helpful for different people and institutions as per their need and hope research fulfills the aspiration of industry, academics, and society.

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Place: Phagwara, Punjab

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LIST OF ABBREVIATIONS

Acronym	Full Name
ANOVA	Analysis of Variance
APAC	Asia Pacific
B2C	Business to Commerce
B2E	Business to Employee
BCCL	Bharat Cocking Coal Limited
CIL	Coal India limited
CD	Compact Disc
CMPDI	Central Mine Planning and Design Institute Limited
DF	Degree of Freedom
DSS	Decision Support System
e-Circulars	Electronic Circulars
e-HR	Electronic-Human Resources
EGFSN	Expert Group on Future Skills Needs
e-HRM	Electronic-Human Resource Management
EIS	Executive Information System
e-recruitment	Electronic-Recruitment
ERP	Enterprise Resource Planning
ESS	Employee Self Service
eFEAP	Electronic - Front End Application Package
FMCG	Fast Moving Consumer Goods
HCM	Human Capital Management
HRP	Human Resource Planning
ICT	Information and Communication Technology
IT	Income Tax
IT	Information Technology
IVR	Interactive Voice Response
KM	Knowledge Management
KMO	Kaiser-Meyer- Olkin
HCM	Human Capital Management
HR	Human Resources
HREA	Human Resources Extranet Application
HRFA	Human Resources Functional Application
HRIA	Human Resources Intranet Application
HRIS	Human Resource Information Systems
HRM	Human Resource Management
HRMS	Human Resource Management Systems
HRPA	Human Resource Portal Application
ISA	Integrated Software Suite Application
LAN	Local Area Network
LIC	Life Insurance Corporation
MAN	Metro Area Network
MIS	Management Information Systems

Acronym	Full Name
MNC	Multinational Company
MSS	Manager Self Service
OECD	Organization for Economic Co-operation and Development
OT	Over Time
PF	Provident Fund
PMS	Performance Management System
ROI	Return on Investment
SaaS	Software as a Service
SAP	Systems Application Provider
SBI	State Bank of India
SSA	Self Service Application
SSC	Self Service Center
TAM	Technology Acceptance Model
USP	Unique Selling Proposition
VCD	Video Compact Disc
VOIP	Voice Over Internet Protocol
WAN	Wide Area Network

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E-HRM Tools: An Empirical Study in Select Indian Organisations.

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ABSTRACT *: Information and communication technology (ICT) has provided leverage for fundamental reconfiguration of services provided by the human resource function, not only in terms of the range of activities that have been automated, but also in the point-of-access for internal stakeholders. Most of dynamic organizations are equipped with different types of tools which facilitates in delivery of HR services. The present research in its endeavor identifies the extent to which different instruments/ tools are in use in selected Indian organizations. This paper also explores difference in use pattern of (electronic human resource management) e-HRM tools in context to private vis-a-vis public and manufacturing/mining vis-a-vis services. It also identifies whether the application of e-HRM tools is same or different for select Indian organizations. Employees' responses have been compiled through a structured questionnaire consisting of demographic variables and statements regarding use of e-HRM tools. The researcher has used one sample t-test, paired sample t test, and one way ANNOVA as statistical toll for analyzing the result. The study reveals that all the e-HRM tools are not fully utilized in Indian organizations and private organization are ahead of public organizations in application of e-HRM tools similarly services sector is of manufacturing/mining sector in application of e-HRM tools. Among eight select organizations Coal India Ltd is laggard in application of e-HRM tools.*

KEYWORDS: *ANNOVA, **A**utomation, Point- of- access, Questionnaire, Stakeholders*

I. INTRODUCTION

The gradual penetration of information and communication technology (ICT) in all facets of business is leading to multidimensional and often unpredictable changes and advancements. Except manufacturing and operations most of the functions of the organization is performed with the click of mouse and latest evolution touch screen, thus most of the business and its employee in present face many challenges and opportunities that evolve from complex nature of work and unending changes taking place in the range of work. One of the major challenges includes rapid change in work technology. One of the largest breakthroughs in the work arena is automation, and digitisation of the work and near constant technological advancement, with a definite move towards the use of technologically sophisticated ways of getting things done, hence HR function of an organization cannot remain aloof and secluded and same pattern has got to be followed for human resource management practices, henceforth new, dynamic ways of managing HR are being seen every day. This has more impetus as different stakeholders are hungry of information need and ask for customised information in 24*7mode at their finger tips.

As per Wright and Dyer (2000) ICT has led to rapid development of e-business and still emerging as a big force, therefore HR and HR professionals are faced with the challenge of performing in ways that are in line with the business. In this view HR function becomes a critical partners in driving success, but to do so it require that HR changes its focus, its role, and its delivery systems. HRM has to act both proactively and reactively in response to the changing business environment and this is prevalent in the way that human resource management practices both within and outside the organisation is being conducted. New dynamic, flexible and adaptable way of managing HR issues policies and practices are being sought after and HR service delivery in electronic form is the solution of above mentioned issue. Application of ICT for HR function is named with various names like web-based human resources, human resource information systems (HRIS), virtual human resource management, human resource intranet, computer-based human resource management systems, and human resource portals but the term e-HRM is extensively used. Global and national changes are impacting the Indian business environment and subsequently influence how human resources are managed.E-HRM has made few buzzwords like automation, transparency, empowerment, paperless office, least human interference a reality which was once supposed the panacea for all the ills of workplace. Technology has led a revolution in the delivery of HR services in organisations. This is quite evident in the way that human resource services both within and outside the organisation is being delivered.

There is a wide practice by HR personnel in organization to activate e-HRM tools to execute responsibilities on digital base by e-personnel data management, e-administration, e-Job design and analysis, e-human resource planning, e-recruitment, e-selection, virtual training, online performance management, e-compensation, e-time and labour management, and e-compliance reporting resulting in stakeholders are less and less likely to receive HR services in face-to-face and pen and paper mode and consumes operational, non-strategic, transaction-oriented services by participating in ICT-mediated interfaces with HR staff or external vendors via telephones, mobile, World Wide Web and other wireless devices.

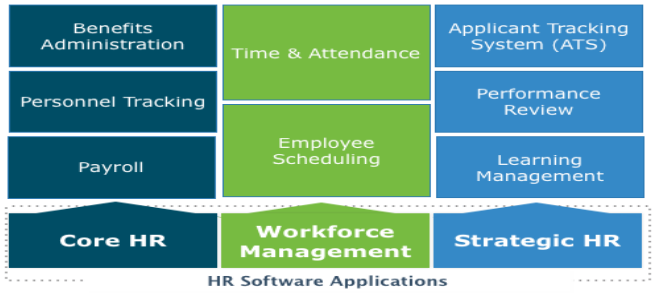
II. LITERATURE REVIEW.

Delivery Tools/ Instruments-According to Ketlley and Reilly (2003), computerized human resource information system consists of a fully integrated, organization wide network of HR-related data, information, services, databases, tools and transactions. Technology has only recently developed in a way that enables e-HRM to make its mark, especially the introduction of corporate intranets and web-enabled HRIS. The nature of the development path, however, varies considerably from organization to organization. Kavanagh and Thite (2008) reported that to improve effectiveness and efficiency in terms of service delivery, cost reduction and value-added services, HR departments came under pressure to harness technology that was becoming cheaper and more powerful. Sanayei and Mirzaei (2008) in empirical study aim at providing an explanation of e-HRM and introducing its activities and tools, after the investigation, the effect of various independent variables such as job satisfaction, professional commitment, and organizational commitment on the effectiveness of HRM as a dependent variable. E-HRM tools such as intranet, extranet, HR portals; integrated HR suite software is rarely used, however according to expert's judgment if they are used, they would have a positive effect on HRM output in Iranian organizations. Florkowski and Olivas-Lujan (2006) examines the diffusion patterns of eight information technologies that are transforming HR service-delivery in North America and Europe: HR functional applications, integrated HR suites, IVR systems, HR intranets, employee and manager self-service applications, HR extranets, and HR portals. The overall diffusion was best characterized as an outgrowth of internal influences, fuelled primarily by contacts among members in the social system of potential adopters. Companies in the 21st century can be broadly said to have adopted at least one of the above mentioned e-HRM technologies.

Foster et al. (2004) describe that the application of the internet to the Human Resource function (e-HR) combines two elements; one is the use of electronic media while the other is the active participation of employees in the process. Bondarouk, T. et al. (2004) states organisations need to embrace the e-HRM revolution which relies on cutting edge information technology, ranging from internet-enabled human resources information systems (HRIS) to corporate intranets and portals. According to Biesalski (2003), e-HRM is a web-based tool to automate and support HR processes**.** According to Lengnick-Hall, & Moritz, (2003) the final stage of total digitalization in the 1990s arrived when HR professionals and ICT specialists joined forces and developed electronic information systems that moved HR decision making from drawers to computer As per Watson Wyatt's (2002) survey of HR technology issues revealed that a wide variety of HR and payroll systems are being used today. According to the results of the study, web technology is the predominant method for delivering HR-related services to employees and managers, and offers significant opportunities to improve communication, knowledge sharing and HR delivery systems In the views of Wright**,** M. et al. (2001) e-HRM refers to the processing and transmission of digitized information used in HRM, including text, sound and visual images, from one computer to another electronic device. As stated by Doughty (2000), today, within the HR software market there are a myriad of HR systems, payroll, training administration, 360 degree feedback, psychological testing and competency software tools operating in their own software features.

HR functional applications (HRFA) – According to Florkowski and Olivas-Luján (2006) HRFA are software-enabled automation of discrete tasks and responsibilities to the HR function. Application software is a defined subclass of computer software that employs the capabilities of a computer directly to a task that the user wishes to perform. An HR functional application implies software for a specific activity or group of activity. Most common functional applications available for the different tasks are, benefits administration, personnel tracking and payroll, Recruitment, Time and attendance, Payroll, Benefits administration, Performance appraisal, Industrial relations advisory, Occupational health and safety module.

Figure-1 Functionality of HR Software Applications



Source- http://www.softwareadvice.com/hr/

As per Software Advice (2014), core HR encompasses the three traditional human resources management functions: benefits administration, personnel tracking and payroll. Workforce management comprises the range of software solutions intended to effectively schedule and track the workforce and include applications to track time and attendance, monitor compliance with labor laws, and usually include payroll functionality, or integrate well with other payroll software. Strategic HR involves growing company by attracting and developing the best people, as well as better managing workforce overall. Strategic HR applications generally provide some combination of applicant tracking and recruiting, learning management, as well as performance review functionality. This type of software streamlines these strategic processes to ensure that a company is using its staff as efficiently as possible, and also that employees are continuing to grow and develop--increasing employee satisfaction and retention rates.

Integrated HR software suite applications (ISA) – As per Wikipedia (2014) Integrated software is software for personal computers that combines the most commonly used functions of many productivity software programs into one application. According to Florkowski and Olivas-Luján (2006) ISA is multiple applications bundled together as a package are referred to as an application suite. The separate applications in a suite usually have a user interface that has some commonality making it easier for the user to learn and use each application. And often they may have some capability to interact with each other in ways beneficial to the user. Integrated software suite applications (ISA) can be contrasted with system software which is involved in integrating a computer's various capabilities, but typically does not directly apply them in the performance of tasks that benefit the user. ISA delivers business intelligence with analysis including, online analytical processing (OLAP), data mining, extract, transformation, and data warehousing, and reporting. This helps achieve optimum levels of capability and providing complete control of all HR aspects by integrating all organization and employee data to provide information on every facet of the operations right from employee policies to payroll processing. This also generates comprehensive reports that stretch the entire spectrum of the database.ISA has lot of leverage over HR functional application like, enhanced navigation, flexible functionality, simplified data management, streamlined communications integrated reporting, and shared environment and speed to value. As per Software Advice portal (2014) of course, core HR, workforce management and strategic HR functions often overlap. While there are best-of-breed solutions for individual functions in each category, there are also integrated suites boasting across-the-board functionality.

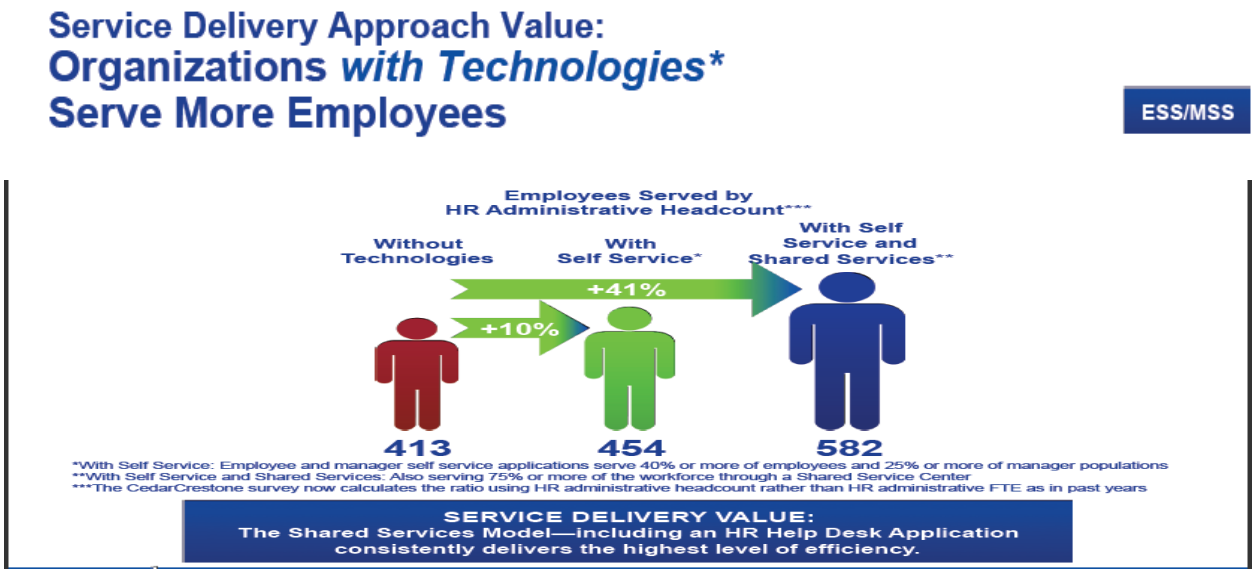
Interactive voice response (IVR) – As per Webpedia (2014), interactive *v*oice response, is a communication technology in which someone uses a touch-tone telephone to interact with a database to acquire information or enter data into the database. IVR technology does not require human interaction over the telephone as the user's interaction with the database is predetermined by what the IVR system will allow the user access to. As per Wikipedia (2014) Interactive voice response (IVR) is a technology that allows a computer to interact with humans through the use of voice and duel- tone multi- frequency-signaling (DTMF) tones input via keypad. Florkowski and Olivas-Luján (2006) states IVR system channels phone calls automatically to targeted recipients or recordings by pressing touchtone buttons. IVR allows employees to interact with a company's host system via a telephone keypad or by speech recognition, after which they can service their own inquiries by following the IVR dialogue. HR function subsequently leverages this technology to facilitate telephone-driven consumption of such services as benefits enrolment, training registration, employee announcements, work-related surveys etc. External organizations and agencies also are able to verify employees' status or income levels by calling the appropriate numbers. IVR helps in automation of operations, Serve employee after normal business hours, improve employee service, lower call centre costs, prioritize employee, so urgent calls are handled quickly.

HR intranet applications (HRIA) – As per Weidenhammer (2013) an intranet creates a single, secure repository for all confidential human resources information and processes. It can provide an easy-to-navigate environment that is accessible by all employees, regardless of where they are located or which computing platform they are using. Employees have immediate access to the latest information. An Intranet can help employees quickly find the information they need. Employees aren't overwhelmed by cumbersome manuals, and they save time searching because they don't have to wade through pages of irrelevant information. To make things even more efficient, employees can enter data online. This data can be automatically integrated into back-end information systems, so it can be validated on input, eliminating errors. In addition, the human resources staff does not have to re-enter employee data, freeing up time for other more important tasks.

Accordig to Florkowski and Olivas-Luján (2006) HRIA is private computer network that provides employees with direct access to link internal database and/ or a seamless interface with the internet. It is a network designed to organize and share information and carry out digital business transactions within a company. An intranet employs applications associated with the internet such as web pages, browsers, e-mails, newsgroups and mailing lists but is accessible only to those within the organization. HR Intranets offer the greatest innovation to HR departments since the advent of the desktop computer. As per Sanayei and Mirzaei (2008), as intranet usage proliferated worldwide opportunities emerged to utilize e-mail and electronic-form software to reduce the costs of data entry for payroll, benefits administration, training administration etc. Rodgers, K. (2009) the term HR intranet means different things to different people, but it's really about using your internal IT network to communicate and collaborate. An HR intranet usually provides self-service access to your central HR systems so managers and staff can input personal data and carry out transactions online, such as booking training courses. Some firms also have sophisticated employee portals on the front – a sort of internal home page where employees go to log on to different IT systems and get information. HR self-service capability is typically provided as an add-on to your HR management system. HR intranet facilitates improvement in data quality, empowerment of employee, reduction in paper consumption, streamlining process, rapid dissemination of valuable information on a wide variety of topics, enables employee to perform various task, connects employee and standardizes HR practices.

Self-service (SS) applications- As per CedarCrestone (2013) HR Systems Survey report with self service 10% more employees can be served and 41% more employees can be served with self service and shared service when compared to HR service delivery instruments without these technologies.

Figure-2 Service Delivery Value of Self Service and Shared Service



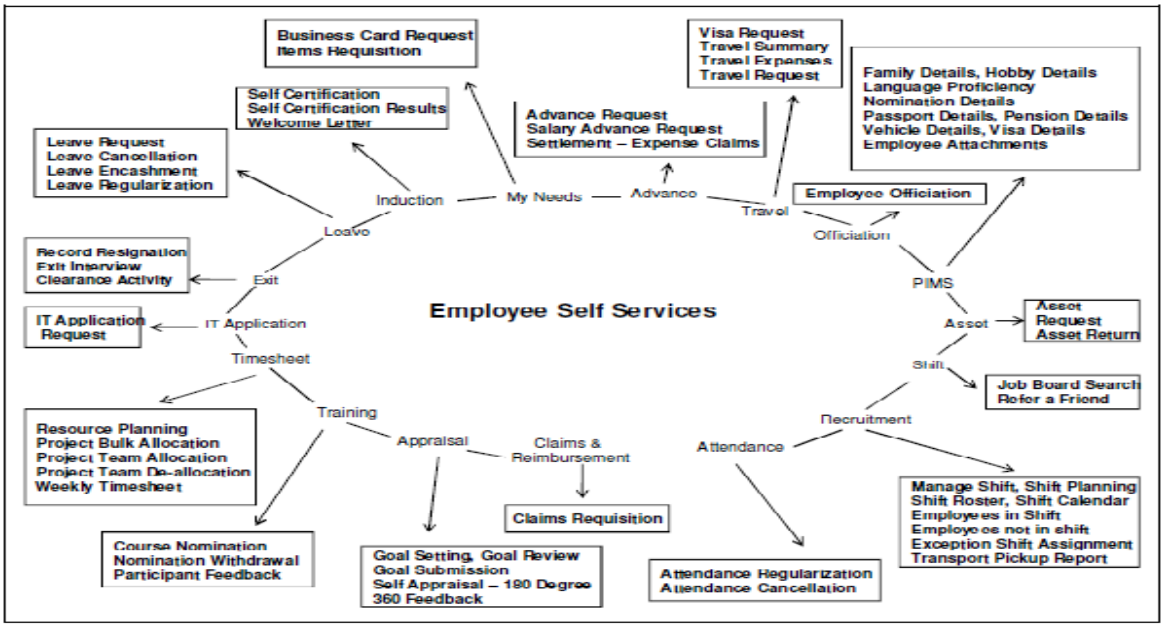
Source- CedarCrestone (2013), "CedarCrestone 2013-2014 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics" – 16th Annual Edition, Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2013-HRSS-HRTech-100713.pdf

Self-service application can be broadly classified in two ways.

Employee self-service (ESS) applications- As per Ulrich, (1997), while attempting to make strategic changes within the human resource function, HR professionals must still deliver good HR services to their stakeholders who include employees and managers. One of the most important fundamental principles in managing human resources is fostering the employment relationship so that employees may feel an attachment to their work and contribute willingly to the success of the organization. As per Keebler & Rhodes (2002), there is agreement on the fact that the employees of an organization are just as important as its customers, and therefore need to be kept satisfied and motivated. This can be achieved to an extent by improving HR service delivery. According to Ketlley P, and Reilly P (2003), before embarking on e-HRM, organizations should review and optimize their business processes. This may be a case of major process redesign, or a more tactical exercise tackling areas of concern. Following a process review, a common next step is to introduce a form of self service. This is likely to involve employee self service, where staff can access their personal record and update it or add new information. Keebler & Rhodes (2002) go on to discuss how, while improving HR efficiencies is the major focus in e-HRM technology design, it should also assist in making e-HRM technology more user-friendly. This should improve the service experience of the managers and employees. In this way, a client service improvement of the HR system can be achieved.

Florkowski and Olivas-Luján (2006) mentions ESS is a software-enabled set of HR transactions that can be initiated and completed without direct involvement of HR staff. It is a web-based application tool that provides employees with access to their personal records and their payroll details. It enables employee self-service and provides access to a comprehensive employee database. The employee database acts a centralized repository of vital employee related information available to HR, employees and managers. Its inherent employee self-service capabilities ensure that this data remains current without tedious data entry by HR. The employee self service is the base on which all other functional modules can be added to create a comprehensive employee self service based HR system. .The Employee Self Service pay an important role in working time and schedule, personal information, training and performance management, life events, benefits, careers, time off from work, with ESS employee can view and access pay slips, summary of year's earnings and deductions, loan statements, PF statements, reimbursement statement, income tax statement, IT declaration and IT calculator, reimbursement claim workflow, ticketing, leave workflows.

FIGURE-3 ESS- Bird Eye



SOURCE- Varma S., Gopal, R. (2010), The implications of implementing electronic human resource management (e-HRM) systems in companies, research thesis, Dr. D. Y. Patil University,. Maharashtra.

Manager self-service (MSS) applications- According to Adamson & Zampetti, (2001).The objectives of manager self-service include improvement in the delivery of HR services, elimination of process steps, approvals and forms, speeding up and streamlining of workflow, reduction in administrative costs, improvement in management's access to important information, providing more time, and finally, enabling strategic HR

Manager self service provides managers with the tools needed to efficiently perform employee administration, as well as the information needed to help employees improve performance and enhance their skills. Manager self service transforms managerial activities from manual, paper-based processes with multiple levels of approval to a web-enabled, self-service system, it allows both managers and employees to stay focused on improving performance and simultaneously minimizes unnecessary human resources involvement in manager-employee interactions, increasing organizational efficiency. As per ADP Employease (2013) It has been seen that line managers are irritated by the fact that they are one step behind from information or they have only secondary information not primary. Manager Self-Service puts the information managers need at their fingertips giving them the ability to more closely monitor and direct their team towards the strategic goals of the organization. Manager self-service application leverage its utility in employee information, organization and staffing, employee time and schedule, employee leave and stability, evaluation of employee competencies, compensation management, timely performance reviews and development processes. It also facilitates new-hire initiation, reporting, competency gap analysis, employee training and development, automated workflows, organization charts, status changes, review and approval of timecards and leave requests, budget and cost centre, delegation of authority at the appropriate level and time, project management, administration, PF funds & gratuity mgmt. According to Ketlley P, and Reilly P (2003*)*, Manager self service is usually a logical development, allowing the sign-off of various decisions or proposals. Redesigning the HR function will impact on the roles and skills of HR staff. There will be many areas of up skilling as the move away from transactional work gathers pace. This will stretch the capability of staff, not just in terms of technological facility but also in customer and relationship skills. As per Florkowski and Olivas-Luján (2006) MSS is a software-enabled set of HR transactions by managers that can be initiated and completed without direct involvement of HR staff.

HR extranet applications (HREA) – As per Murugan et al. (1988) extranet is the electronic computer-to computer exchange of information in a structured format that can occur between business trading partners, vendors and between various units within an organization. Accordig to Florkowski and Olivas-Luján (2006) HREA application is a private computer network that links the information system of client-firms to external vendors delivering co-sourced or outsourced HR service. HR extranets essentially act as conduits for electronic commerce between client firms and HR vendors or a business-to-business (B2B) market for HR services. Two different business models can govern these relationships. In the first one, the HR department shares workforce data with vendors who use the information to effectively manage HR services under their stewardship. Lacking authorization to communicate with vendors, employees continue to go to their employer to update service choices, revise personnel records, and voice complaints about services rendered. The second model saddles vendors with broad responsibility for database management and service administration. Here, workers use the extranet to directly initiate or modify service delivery from external providers. Flanagan (1997) state extranet facilitates the exchange and processing of high volumes of data from one computer to another. Extranets have been used by employees to communicate with vendors, service providing partners, and numerous other audiences who contribute to the operating efficiency or to the bottom line. As per HRCentral (2013) HR extranet has application with employee training, management training and coaching, legal compliance, salary, benefit and payroll administration, personnel file, health and safety programs, unemployment claims management etc.

HR portal applications (HRPA) – As per Microsoft business solution (2012) a portal is a unified place that connects people to contextually relevant information, services, and applications. Accordig to Florkowski and Olivas-Luján (2006) HRPA is website interface that offers a personalized unified access point to all information sources, tools, and systems individual needs to effectively consume or deliver HR services. The range of work-related data and activities that one can link to is role driven. In some instances, employees have the ability to interact directly with external vendors catering to personal needs and interests. Portals are highly configurable through code modules. As per Microsoft business solution (2012) HR portal can provide HR-related content and applications to those who need it—those assigned to the Employee, Manager, Payroll Administrator, and Human Resources Administrator roles. As per Quikker (2008) HR portal solutions offer access to additional process based tools and applications that enable staff to achieve major efficiencies in their work. The HR Portal now becomes a habitual tool for employees to manage all of their work related tasks, from requesting a holiday; through managing their performance and development, as well as providing access to improved communication tools to enable collaboration. Through better understanding of organizational objectives, and how they can contribute, staff becomes more engaged and aligned. They become more productive. The capability for integration offered by HR portals represents another shift in value by protecting existing investments in systems and processes. With an HR portal 'synchronized' to other systems within the business it now becomes the single point of integration for company information and offers an option for employee self service – single sign-on /single data-entry.

HR Magazine, editorial content (2010) states personalization, online decision support, tools designed to help employees compare benefits plan features, understand insurance coverage relating to specific events and estimate medical costs while enrolling via portals is highlights of portal application. HR portal give employee a consultant while reducing the volume of e-mail and calls to HR staff members for help with benefits decisions. Video is also playing a more prominent role on HR portals. Latest portal is helpful for employees to be able to navigate to all of those areas seamlessly to complete transactions without receiving multiple login prompts. As HR portals continue to evolve, many experts say the next wave will feature social networking-type tools that encourage employees to share expertise, join communities of practice or connect in other ways. Kluemper, D & Rosen, P. (2009) states, indeed, social media, or web 2.0 as a vibrant network has been suggested by some scholars to be the potential technology that will have a major impact on HR. Firestone (2003) states HR portals are vehicles through which HR information and applications can be channelled effectively and efficiently. As per Cascio (2000) and Collins (2001), through HR portals, employees can update own administrative activities and may have also have access to customized and personalized news, resource applications, and e- commerce options. Through HR portals managers are able to generate reports, examine employee activities and manage their own activities"

III. RESEARCH METHODOLOGY

Research emphasis and objective-The literature review reveals very little empirical study has been from emerging countries like India which is all together different from western countries, so there is a possibility of different result in context to e-HRM instruments and tools in use. The present research in its endeavor identifies extent to which e-HRM tools are in use in eight select Indian organizations. This paper explores difference in use pattern of e-HRM tools in context to private vis-a-vis public and manufacturing vis-a-vis services. This paper also explores difference in use pattern of e-HRM tools in among select Indian organization.

Research Hypothesis –

A1) H0-It is hypothesized that application of different e-HRM tools are same to the mean (test) value in Indian organizations.

A2) H0- It is hypothesized that that the application of e-HRM tools are at the same level for public and private organizations.

A3) H0-- It is hypothesized that that the application of e-HRM tools are at the same level for manufacturing/ mining and services organizations

A4) H0-- It is hypothesized that the application of e-HRM tools are at the same level for all the select Indian organizations.

Sample unit - The researcher has selected eight organizations as sample organizations which have sound HR practices. The study consists of public and private organizations both from manufacturing/mining sector and services sector. The organization where the study was conducted is illustrated below.

Table- 2 Sample Organizations

Organization	Manufacturing /Mining	Services
Public	1. National Thermal Power Corporation (NTPC). 2. Coal India Ltd (CIL).	3. State Bank of India(SBI) 4. Life Corporation of India (LIC)
Private	5. Moser Baer India Ltd 6. Tata Motors	7. ICICI Bank Ltd 8. HCL

Source –Formulated by scholar

Sample profile and sample size- Sample (target respondents) are all the internal stakeholders like operatives, supervisors, managers of the select Indian organizations. With 5% confidence interval **(**margin of error) and 95% confidence level with total population of 9, 50,189 (tentative sum all the employee of the select organizations) sample size needed is 384. Estimating 33 % (one out every three) as good response rate, total number of 1164 questionnaire were sent for survey. The percentage of people who do actually fill out a survey that they receive is known as the response rate. Out of 180 questionnaire (surveys) send online, 32 respondents filled the questionnaire and submitted i.e. response rate of 17.8%. Out of 984 questionnaire(surveys) provided to respondents in hard copy format 418 responses were collected i.e. response rate of 42.5%.total 450 responses out of a total number of surveys of 1164 i.e. overall response rate of 38.7%**.** Out of 450 responses 405 responses were found valid. Response having discrepancy and incomplete were not fit for further processing were discarded. For compatibility and convenience in data analysis and hypothesis testing, 50 responses from each

organization were entered for statistical interpretation. The time period of the study (data collected) is from April 2013 to Feb 2014.

Data collection- Structured questionnaire with 5-point response scale (not at all, very little, to some extent, to great extent, very much) has been used as a research instrument. A score of 1 for the response not at all, 2 to very little, 3 to some extent, 4 to great extent, 5 to very much is assigned. The statement of questionnaire is as follows.

[1] To what extent Interactive Voice Response (IVR) is used as an instrument for performing HR activities in
[2] your organization?
[3] To what extent HR Intranet is used as an instrument for performing HR activities in your organization?
[4] To what extent Self Service (SS) (Employee Self Service –ESS / Manager Self Service -MSS) is used as an
[5] instrument for performing HR activities in your organization?
[6] To what extent HR Extranet is used as an instrument for performing HR activities in your organization?
[7] To what extent HR Portal is used as an instrument for performing HR activities in your organization?
[8] To what extent HR Functional Application (HRFA) software are used as an instrument for performing HR
[9] activities in your organization?
[10] To what extent Integrated HRM Suite Applications (ISA) software is used as an instrument for performing
[11] HR activities in your organization?

IV. DATA ANALYSIS AND INTERPRETATION.

Beside descriptive statistics one sample t-test had been used to test the hypothesis A1. Paired Sample t Test has been used to test the hypothesis A2 and A3**.** ANOVA has been used to test the hypothesis A4. A Cronbach's Alpha of 0.812 shows questionnaire are reliable.

Application of Tools For testing the hypothesis (A1), one sample T -test has been used using a hypothised mean value of 3.5 assuming that a mean value less than 3.5 will offer support to the null hypothesis. The aim here is to compare the sample mean with hypothised mean for probability estimation, that the sample mean is different by chance or random occurrence. As SPSS don't have a provision for one tailed t-test so the researcher has converted 2-tailed value in one tailed value by dividing it by two

Table-3 One-Sample t Test of e-HRM Instruments/ Tools

Attributes	Test Value = 3.5	Degree of freedom = 399	
	Mean	t	Sig. (2-tailed)
IVR	2.427	-18.975	.000*
HRIA	4.147	12.929	.000*
SS	3.875	6.222	.000*
HREA	3.060	-6.284	.000*
HRPA	3.602	1.555	.121
HRFA	2.682	-17.009	.000*
ISA	3.670	3.079	.002*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t +1.645, one tailed test, df 399, sig 5%)

In case of IVR low significance values of 0.00 indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected but t value is negative and observed mean value less than test value, it can be concluded that IVR as an instrument not fully utilized in Indian organization. In case of HRIA low significance values of 0.00 indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected. It can be concluded that HRIA as an instrument fully utilized in Indian organization.In case of SS, low significance values of 0.00 indicate that there is a significant difference between the test value and the observed mean. So the null hypothesis is rejected. It can be concluded that SS as an instrument fully utilized in Indian organization. For HREA low significance value 0.00 indicates that there is there is a significant difference between the test value and the observed means. So the null hypothesis is rejected but t value is negative and observed mean value less than test value, it can be concluded that HREA as an instrument not fully utilized in Indian organizations. In case of HRPA high significance values of .0605 (.121/2) indicates that there is no significant difference between the test value and observed value. So the null hypothesis is accepted.

Based on this results it can be concluded that application of HRPA instruments equal to mean value, so one can conclude that HRPA as an instruments are not fully utilized in Indian organization. In case of HRFA low significance values of 0.00 indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected but t value is negative and observed mean value less than test value, it can be concluded that HRFA as an instrument not fully utilized in Indian organization. In case of ISA low significance values of 0.01 (0.02/2) indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected. It can be concluded that ISA as an instrument is fully utilized in Indian organizations. Overall null hypothesis (H0) A1 is partially rejected and can be concluded that only HRIA, SS, ISA is fully utilized as e-HRM tool in Indian organization.

E-HRM Instruments/ Tools (Public vis-a-vis Private) - To test the hypothesis (A2) paired sample T test has been used as a statistical tool.

TABLE-4 Paired Sample t Test of e-HRM Instruments/ Tools
(Private vis-a-vis Public)

Pair	Tool	Mean Private	Mean Public	Difference of Mean	t	Sign
1	IVR	2.77	2.085	.685	7.579	.000*
2	HRIA	4.44	3.855	.585	6.198	.0008*
3	SS	4.215	3.535	.680	6.356	.000*
4	HREA	3.555	2.565	.99	8.437	.000*
5	HRPA	4.00	3.205	.795	6.699	.000*
6	HRFA	2.685	2.68	.005	.051	.959
7	ISA	4.065	3.275	.79	7.969	.0008*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (Table value of t 1.96 two tailed test, df 399, sig 5%)

Table-4 shows null hypothesis-A2 for IVR, HRIA, SS, HREA, HRPA, ISA is rejected as the significance level is much below the assumed significance level of t at 0.05.So application of IVR,HRIA, SS, HREA, HRPA,ISA is not same for public and private organizations. Null hypothesis-A for e-HRM tool HRFA is accepted as the significance level is above the assumed significance level of F at 0.05 hence, the application of HRFA is same for public and private organizations. Overall null hypothesis (H0) A2 is partially rejected

E-HRM Instruments/ Tools (Manufacturing vis-à-vis Services) -To test the hypothesis A3 paired sample T test has been used as a statistical tool.

TABLE- 5 Paired Sample Test of e-HRM Instruments/ Tools
(Manufacturing/Mining vis-à-vis Service)

Pair	Tool	Mean Manufacturing	Mean Service	Difference of Mean	t	Sign
1	IVR	2.37	2.485	-.115	-1.167	.245
2	HRIA	4.005	4.29	-.285	-2.847	.005*
3	SS	3.84	3.91	-.07	-.584	.560
4	HREA	3.215	2.905	.31	2.115	.036*
5	HRPA	3.515	3.69	-.175	-1.356	.177
6	HRFA	2.51	2.855	-.345	-3.632	.000*
7	ISA	3.51	3.83	-.32	-2.915	.004*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (Table value of t 1.96 for two tailed test, df 199, sig 5%)

For HRIA, HREA, HRFA, ISA null hypothesis is rejected as the significance level is below the assumed significance level of t at 0.05.So, application of HRIA, HRFA, ISA is not same for manufacturing/mining and services sector. Null hypothesis-A3 for e-HRM tools IVR, SSA, HRPA is accepted as the significance level is above the assumed significance level of t at 0.05.So application of IVR, SSA, HRPA is same for

manufacturing/mining and services sector. Overall it can be concluded that null hypothesis (H0) A3 is partially rejected for e-HRM tools taking manufacturing/mining vis-à-vis service as paired sample test of comparison.

E-HRM Instruments/ Tools (Organization vis-a-vis Organization)-To test the hypothesis (A4) one way ANNOVA has been used as a statistical tool.

TABLE- 6 One way ANNOVA of e-HRM Instruments/ Tools
(Organization vis-à-vis s Organization)

Tool	MEAN (ORGANISATION WISE)								MEAN	F	SIG.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	TM			
IVR	1.4	2.1	3.3	2.48	3.04	2.4	2.06	2.64	2.43	18.02	.00*
HRIA	2.5	4.34	4.1	4.46	4.7	4.2	4.26	4.62	4.15	41.23	.00*
SS	2.08	3.96	4.02	3.42	4.44	4.4	4.24	4.44	3.87	35.57	.00*
HREA	2	3.56	3.06	2.06	3.82	3.26	2.94	3.78	3.06	16.27	.00*
HRPA	2.02	3.86	3.92	2.94	4.22	3.82	4.04	4	3.60	21.80	.00*
HRFA	2.16	2.84	2.62	2.8	2.6	2.6	3.16	2.68	2.68	4.57	.00*
ISA	2.2	3.88	3.98	3.94	4.14	3.44	3.52	4.26	3.67	25.18	.00*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, D.F. 399, sig 5%)

Table-6 shows significance level all e-HRM tools; IVR, HRIA, SS, HREA, HRPA HRFA, and ISA is below the assumed significance level of F at 0.05so null hypothesis (H0) A4 is rejected and it can be concluded that level of all the e-HRM tools is different in Indian organizations.

V. CONCLUSION RECOMMENDATIONS AND MANAGERIAL IMPLICATIONS

Conclusion- By examining the data, it became evident that most of e-HRM tools like, HRIA, SSA, ISA and are in high use in Indian organizations HRPA has limited use and application of IVR, HREA, HRFA, is minimal. It is quite obvious that most of Indian organizations are using ISA hence HRFA is less in use. From analysis it is quite obvious application of most of e-HRM instruments like IVR, HRIA, SSA, HREA, HRPA, and ISA are significantly different for private and public organizations. But in case application of HRFA there is no significant difference or we can say that application of HRFA is same for public and private organizations. Positive t values indicate private organizations are ahead in application of e-HRM tools compared to public organizations.In the same way researcher finds that application of some of e-HRM instruments like HRIA, HREA, HRFA, ISA, are significantly different for manufacturing/ mining and services. But in case application of IVR, SSA and HRPA there is no significant difference or we can say that application of these instruments is same for manufacturing/mining and services organizations. Negative t value shows for most of the tools except HREA, services sector are ahead. In case of HREA, manufacturing sector is ahead by providing a link to employee for accessing third party services.Research statistics shows that there is difference in application of e-HRM tools, so it can be said depth and penetration of e-HRM tools are not uniform in Indian organizations. Further it is obvious from the study that CIL is laggard as mean value to most of the tools is lowest when compared to other organizations.

Recommendations- It is obvious that applications of e-HRM instruments are at different stage of growth and all the instruments are not fully utilized. To gain maximum benefit out of the e-HRM instruments, organization must inculcate instruments relevant to them and simultaneously provide awareness and training to those employees who are either digitally illiterate or skeptical of using these instruments. In some organization at corporate level these instruments are functional but at unit level its application is limited. In similar manner application of these instruments are limited to certain level of employee or those who are higher in the hierarchy and there is dearth of trickledown effect. It is evident from the fact that public sector organizations are laggards in application of different e-HRM instruments compared to private sector organization and these organizations are supposed to take more initiative to harness the benefit of e-HRM. HR personnel must create awareness and if possible conduct workshop and seminar for staff and line manager to make it successful. The biggest motivation for employees to use e-HRM instruments is to provide a link to choose and track their career path.

These recommendations are more relevant to labor intensive organization like CIL where lots of e-HRM tools are still not functional and concept of HR self service, automation and mutation of transactions are distant dream. The demographic structures of the employee are also not in favor of e-HRM implementation. HR professionals, line managers and top management have to work hard and have take it as a mission, moreover

after 4-5 years almost all the employee will retire who joined CIL at the time of nationalization. Computer literacy can be imparted to those workforce who are literate and it has been seen that lot of workforce are illiterate or less educated who joined CIL at the time of nationalization.

Managerial Implications- Globalization is possible only when companies are technology savvy, HRM department that is capable to sail in IT enabled superhighway and can support a globalized workforce. The proliferation of information technology such as local area networks, corporate intranets, portal, e-mail, videoconferencing, social networking site is the hallmark of lean and mean flat networked company. If an organization want to be global then there HR function must have the support of technology, i.e. tools of e-HRM must be included while delivering the services.

A lot of discussion has been made related to digitization of HR function leading to dehumanization of HR function. Almost all the services being delivered on digital platform, HR function is more IT centric rather than people centric, hence putting a limitation on HR executive's role. Now they may be supposed to play secondary role and facilitator of IT function in delivering HR services. In some cases at the highest level HR professionals are just supposed to formulate HR framework, policy and strategy and all other activities being automated.

HR function s likely to be more process, IT oriented and lacking human touch, posing a big challenge for HR as a function. HR managers will show more willingness in acquiring hard IT skill rather than gaining soft man management skill.

Sometime to safeguard interest and presence, HR managers may put hindrance in digitization of HRM function. Further all the HR issues cannot be mechanized and has to be resolved with case to case merit where HR managers have to take a leaf out of their cap and look beyond electronic solutions.

With improved transparency and empowerment, the role of HR as middleman has reduced, sometime sense of insecurity and neglect may crop up in the mind of HR professionals. HR professionals have to accept the fact and have to work for higher order needs of the organization.

Rapid growth of networking of computers and virtualization of HRM departments, HR practitioners are having a digital career as there is reduction in cost of technology and automation of process and work from home culture. So HR practitioners have lot of challenges and opportunities. These professionals will be tested on several parameters and to survive and excel have to deliver gold.

Generation Y is more technology savvy and knowledge workers, there could be hardly any resistance from stakeholders and HR department can adhere to its mission and go for digitization. Now demand of the day is to provide services on mobile/ Smartphone platform.

Social networking or web2.0 technology has already entered in some organizations for providing HR related issues. So HR professional and line managers should be ready for it and any other big change.

Overall it can be said e-HRM as an instrument in the hand of HR professionals can remove almost all the work related issue if implemented with right approach and spirit. So whole responsibility is with managers if e-HRM doesn't succeed they cannot blame e-HRM, if they do then people will use proverb "A bad workman quarrels with his tools".

VI. BARRIERS AND LIMITATIONS

One of the biggest limitation of this research is there is dearth of empirical research in Indian context and exclusive studies related to different e-HRM tools. Some of the employees were even sceptical of purpose of the study. In some cases researcher has to clarify and persuade the respondents. In some cases especially at operative level the researcher has to explain different queries of e-HRM. Present research has some limitation as researcher has selected eight organizations so its result cannot be blindly generalized to all other Indian organizations. Contextual analysis is important before implementing the results. Generalizing outside of this context, for instance to relatively smaller organizations, other sectors, more peripheral parts of the organization, or some other parts of the world, should only be done with great caution. The researcher has utilized non-probability sampling. Participants were selected based on judgmental and convenience sampling techniques. Extracting information related to relevant HR practices or application of ICT for HR services, is hard nut to crack as employees were unwilling to share as they bound by employment code are not supposed to disclose office/ business secrets.

One of the limitations of this research is perception based study. Respondent's opinion has been measured. It has been assumed that the respondents have revealed the correct information

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Evaluation of Level of E- HRM in Indian Organizations

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Abstract

The role of HR function in few organizations are only limited to elementary HR interventions, day to day activities, time and labor management, salary and personal data administration, often named as operational (transactional) HRM. Organizations with sound and healthy HR function, having most of prevalent and relevant HR practices such as recruitment, training and development, performance appraisal, reward fully functional and duly focused HR department termed it as relational (traditional) HRM. Some of organizations have faith in employer brand, change management, knowledge management, enabling strategic capability to HR function named as transformational HRM. Three level of HR function has been identified but extent to its digitization varies from organization to organization. In an organization HR function may be at highest level i.e. transformational level but application of electronic tools may be limited to operational or relational level. This main aim of this paper is to identify the level to which electronic human resource management (e-HRM) is prevalent in Indian organizations, difference in level of e-HRM in context to private vis-a-vis public and manufacturing vis-a-vis services. Response has been sought after from employees of eight organizations using structured questionnaire as instrument. Factor analysis, one sample t- test and paired sample t- test has been used as statistical tool for data analysis and inferences. From factor analysis three factors have been extracted. Result depicts that e-HRM at operational level for all the attributes and there is significant difference in level of e-HRM for few attributes when compared private vis-a-vis public and manufacturing vis-a-vis services.

Keywords: Digitization, Factor Analysis Operational, Relational, Transformational,

Introduction

The gradual penetration of information and communication technology (ICT) in all facets of business is leading to multidimensional and often unpredictable changes and advancements. ICT has led to rapid development of e-business and still emerging as a big force, therefore HR and HR professionals are faced with the challenge of performing in ways that are in line with the business. According to Wright and Dyer (2000), HR function becomes a critical partners in driving success, but to do so it require that HR changes its focus, its role, and its delivery systems. HRM has to act both proactively and reactively in response to the changing business environment and this is prevalent in the way that human resource management practices both within and outside the organisation is being conducted. New dynamic, flexible and adaptable way of managing HR issues policies and practices are being sought after and HR service delivery in electronic form is the solution of above mentioned issue. In order to understand how e-HRM affects the work of human resource professionals and line managers, it is necessary to look at the various ways in which human resource management is conducted within organisations. Three main forms of e-HRM,

operational, relational, and transformational are very closely related to the way in which HRM practices develop within organisations. For the operational type of e-HRM, HRM activities that were offered face-to-face now are being offered through web-based technology. For relational e-HRM, most of HRM functions will have a support of internet technology rather using pen and paper. Transformational e-HRM creates a change-ready workforce through an integrated set of web-based tools that enables the workforce to develop in line with the company's strategic choices. Different levels of e-HRM differ from organisation to organisation. Some of the organisations would use technology for initial level i.e. operation and others using technology to the advanced level named as transformational e-HRM and a part of the organisation in between at the relational level.

Literature Review

Lepak and Snell (1998) make distinction in HRM services, namely operational HRM, relational HRM and transformational HRM. Wright and Dyer (2000) made a similar distinction in service delivery of HRM services named as transactional HRM, traditional HRM, and transformational HRM. Martin, Reddington and Alexander (2008) asserted that e-HRM can be classified according to three dimensions namely operational HRM, relational HRM and transformational HRM. Same was vindicated by Bondarouk and Ruël (2007) as well as Strohmeier (2007) and identified different types of e-HRM and refers to them as consequences. These consequences included operational, relational and transformational.

Lengnick-Hall and Moritz (2003) view e-HRM development slightly differently to other authors. They purport that e-HRM develops through three main waves within an organisation. The most simplistic 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 organisation

According to Bieasalski (2003) e- HRM offers the opportunity to automate administrative HR-work and to optimize value creating HR- activities. Three levels of development can be distinguished as web-presence HR, web-enabled HR, web-energized HR.The first level "web presence" means that parts of the e-HRM-solution are present. Web-enabled means that all parts of the e-HRM solution are present and can be accessed online. The third level describes more proactive e-HRM-solution that is fully implemented, can be accessed online and is used intensively by the employees.

As per Scott (2008), if one would separate the HR function into two broad components, namely transactional and non-transactional activities, then it is easy to envisage the transactional components being e-enabled. In most of the non-transactional HR activities, a continuum of e-possibilities exists. The conservative point on the continuum would suggest that no electronic mechanisms should be used to replace "people" activities, while the radical view on the continuum would suggest that technology could replace all direct human interaction with the HR customer.

TABLE-1 Levels of E-HRM

Researcher	year	Level 1	Level 2	Level 3
Lepak & Snell	1998	Operational	Relational	Transformational
Wright & Dyer	2000	Transactional	Traditional	Transformational
Lengnick-Hall & Moritz	2003	Publishing	Automation	Transformation
Bieasalski	2003	Web-presence	Web-enabled	Web-energized
Bondarouk & Ruël	2006	Operational	Relational	Transformational
Strohmeier	2007	Operational	Relational	Transformational
Martin, Reddington & Alexander	2008	Operational	Relational	Transformational

From table -1 it is obvious that there is unanimity among the researcher regarding level of e-HRM as operational, relational and transformational, as originally conceived by Lepak and Snell (1998).

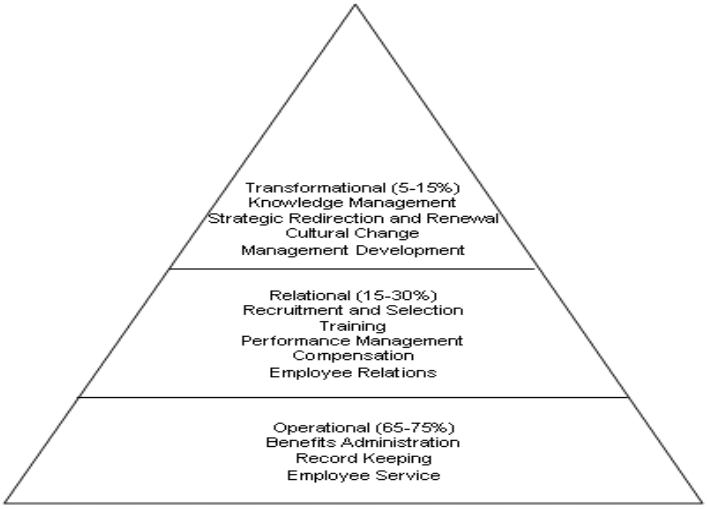
Transactional/Operational / Publishing /Web-presence HRM- As per Lepak and Snell (1998), operational human resource management is concerned with streamlining operations It involves basic administrative HR activities such as capturing of personnel data payroll publishing of information, earlier face-to-face now offered through web-based technology. According to Bondarouk and Ruël, (2007) for operational HRM, the organisations needs to choose whether or not employees will keep their own personal information up to date through an HR website, or whether this will be done manually by administrators. As per Shane (2009) the one-way communication from the organisation to its staff is characteristic of the first form of e-HRM, which involves simply publishing information. Intranets are the primary information delivery medium for this and include generic content such as the organisation's policies and procedures. This is often expanded to include more personalised information such as vacancies. This type of e-HRM is in itself extremely beneficial to organisations as it allows for more cost-effective dissemination of information by cutting down on printing costs. Changes to information can be updated as and when required so that users can access up-to-date, relevant information when needed.

Traditional/Relational/ Automation/ Web-enabled HRM- The relational *HRM*, deals with more advanced HRM activities is viewed as the second, more complex form of e-HRM. The emphasis here is not on administering, but on HR tools that support basic business processes such as recruiting and the selection of new personnel, training, performance management and appraisal, and rewards**.** According to Bondarouk & Ruël, (2007) with relational HRM, there is a choice of whether to conduct more complex HR practices, like recruitment and selection using e-HRM, or to use a more traditional paper-based approach such as newspaper advertisements and paper-based application form. According to Strohmeier, (2007) relational HRM concerns the interaction and networking of the various HRM stakeholders.

As per Lengnick-Hall & Moritz, (2003) relational e-HRM also involves the automation of transactions (internet in place of pen and paper) through the use of intranets and extranets, HR portals, employee self-service and manager self-service, and operates with several application programmes. These technologies facilitate relationships between users of the systems. As per Bondarouk & Ruël, (2007), the emphasis of relational HRM is not on the administration of HR processes, but rather on the manner in which HR tools support basic business processes such as performance management and recruitment and selection.

Transformational /Web-energized HRM- Transformational HRM is the highest-level and the most complex form of HRM. According to Lengnick-Hall & Moritz, (2003), HRM shifts from a transactional to a transformational focus, whereby the human resource functions are relieved of the operational tasks and redirected towards more strategic initiatives. These types of work include: strategic partnering with the business, creating centres of expertise and administration of service centres. According to Bondarouk & Ruël (2007) when using e-HRM for strategic, transformational purposes, "it is possible to create a change-ready workforce through an integrated set of web-based tools that enables the workforce to develop in line with the company's strategic choices".

FIGURE- 1 Traditional Delivery of HR Services

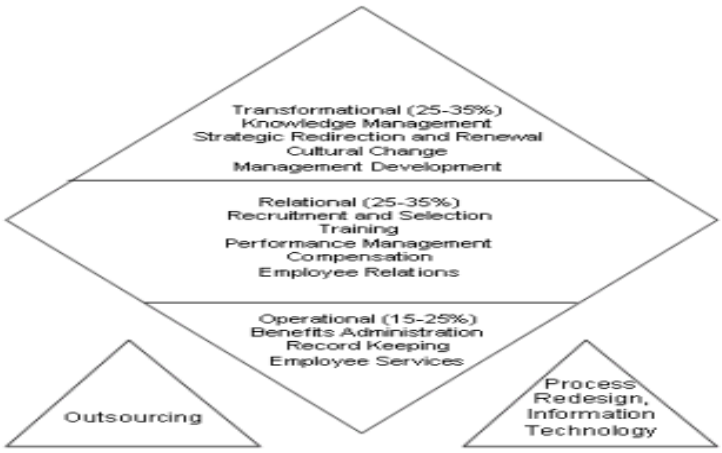


Source-Wright, P., and Dyer, L., (2000), "People in e-business: new challenges, new solutions", *Working paper- Center for Advanced Human Resource Studies*, Cornell University, pp. *00-11.*

The figure 1 and figure 2 shows transition of HRM function in service delivery from traditional to strategic and time devoted in each level of HRM. From the figures it is quite clear as HRM function moves to strategic delivery approach, it devotes less time in operational or primitive level of HR function and maximum time on transformational or highest level. With strategic delivery approach organizations some time reengineer their HR function, opt for outsourcing, ride on electronic platform and in most cases applies all the three options simultaneously.

According to Wright & Dyer (2000).More recently, HR function has had to play a more strategic role in the organization. The only way to achieve this is to relieve much of the burden of transactional human resource activities in order to free up time so that HR can concentrate on traditional transformational HR activities. This is done either by outsourcing some of the human resource function, but what would be more relevant to this study, is to utilize information technology in the form of e-HRM (see Figure -2).

FIGURE 2 Strategic Delivery of HR



Source-Wright, P., and Dyer, L., (2000), "People in e-business: new challenges, new solutions", *Working paper- Center for Advanced Human Resource Studies*, Cornell University, pp. *00-11.*

As per Wright & Dyer (2000), development and implementation of human resource-specific information technology systems is the first step in achieving this. In addition to this, new systems have been developed that allow management and employees to manage much of their own human resource activities, such as leave application and approval, personal data changes etc. Thus, e-HRM systems aid in freeing up time for the HR function so that there can be greater focus on high-value strategic initiatives.

According to Ruël et al. (2004), an important factor to keep in mind, is that in actuality, a combination of these types of e-HRM are utilised. E-HRM development is not a step-by step process in reality. Different levels of e-HRM implementation are not a mutually exclusive activity but some time at the same time all the three levels are being implemented simultaneously. However, the authors comment that establishing a good transactional foundation is an important basis for relational e-HRM, and effective relational e-HRM should be in place for successful transformational e-HRM to be successful. According to Lengnick-Hall & Moritz (2003), while some organisations might take a developmental approach, building up from operational, to relational to transformational e-HRM in a step-by-step manner, other organisations will make more aggressive changes, moving straight from operational e-HRM to transformational, strategic e-HRM. It seems that the first step in successful e-HRM is ensuring that decision-makers buy into the fact that the benefits outweigh the costs. As per Shane (2009), three types of e-HRM are often used simultaneously.

Organizations will have elements from each of the types of e-HRM, but in an ideal world, each stage should be developed incrementally, that is, a strong operational foundation will enable better relational e-HRM, which in turn will be beneficial for meaningful transformational e-HRM

Research Objective

Survey of literature raises some questions and remained unanswered, reveals there is no study or very little empirical study has been done to the related research questions, Present study is part of inquisitiveness of the questions which has been converted into research objectives.

- To evaluate the present level of e-HRM in Indian organizations?
- To examine difference of level of e-HRM between public and private organizations?
- To examine difference of level of e-HRM between manufacturing and service sector?

Research Hypothesis

A) H0- It is hypothesized that there is no difference in mean value of present level of e-HRM and test mean value.

B) H0- It is hypothesized that difference in mean value of level of e-HRM between public and private organization is zero.

C) H0- It is hypothesized that difference in mean value of level of e-HRM between manufacturing and services organization is zero.

Research Methodology

Sample Unit and Sample Size - The study consists of public and private organizations both from manufacturing sector and services sector in equal numbers. The researcher has selected eight organizations, National Thermal Power Corporation, Coal India Ltd, Life Insurance Corporation, State Bank of India, Moser Baer India Ltd, Tata Motors, HCL , ICICI Bank Ltd as sample organizations as these organizations have sound HR practices. Target respondents are supervisors and managers of these organizations. The sample size of the research consists of 307 employees.

Data Collection- Structured questionnaire with 5-point response scale (not at all, very little, to some extent, to great extent, very much) has been used as a research instrument. The statement of questionnaire is listed as.

1. To what extent e-HRM supports HR activities in administration area i.e. salary, personal data administration?

2 To what extent information technology supports time and labor management function in your organization?

3 To what extent HR services earlier offered face-to-face now offered through information technology?

4 To what extent e-HRM supports publishing of HR information?

5 To what extent HR function has web presence?

6 To what extent e-HRM performs operational HR function in your organization?

7 To what extent information technology supports human resource planning (HRP) function in your organization?

8 To what extent information technology supports job design and analysis function in your organization?

9 To what extent information technology supports recruitment function in your organization?

10 To what extent information technology supports selection function in your organization?

11 To what extent information technology supports training and development function in your organization?

12 To what extent information technology supports performance appraisal function in your organization?

13 To what extent information technology supports reward and compensation function in your organization?

14 To what extent HR services earlier offered by pen and paper now offered through information technology?

15 To what extent e-HRM supports automation of HR transactions in your organization?

16 To what extent e-HRM performs relational HR function?

17 To what extent HR services offered through integrated set of web based tools (SAP, ERP) in your organization?

18 To what extent e-HRM supports mutation of HR transactions?

19 To what extent HR functions are delivered electronically in your organization?

20 To what extent e-HRM plays a role in strategic HR task in your organization?

21 To what extent e-HRM performs transformational HR function?

The questionnaires were sent to the employees in soft copy and in some cases questionnaire in hard copy was also provided. Convenient sampling technique was adopted in order to choose the ultimate unit (respondents). Out of 148 questionnaires sent in softcopy, 26 respondents filled the questionnaire i.e. response rate of 17.56%. Rest 74 responses could be collected by seeking response from 159 respondents in hard copy format (total 100 responses). First page of survey dealt with the introduction, purpose of the study, assurance of confidentiality and anonymity. Second page and onwards dealt with profile of respondents and actual survey.

Data Analysis and Interpretation

The statistical techniques were applied using the Statistical Package for the Social Sciences (SPSS) computer program for Windows, version 16.0. Factor analysis has been used as tool to categorize the questionnaire in different groups. One sample t-test had been used to test the hypothesis of A. Paired sample t-test has been used to test hypothesis B and C

TABLE-2 Factor Analysis of E-HRM Attributes

Attributes	Operational	Relational	Transformational
Admin	.805		
Time and labour	.768		
Face-to-face	.722		
Publishing	.636		
Web presence	.596		
Operational	.501		
HRP		.773	
Job design		.751	
Recruitment		.727	
Selection		.686	
Training		.616	
Per. appraisal		.600	
Compensation		.539	
Pen and paper	.	.528	
Transactions	.	.524	
Relational	.	.515	
Integrated set			.743
Mutation	.		.724
Electronically			.692
Strategic			.631
Transformational			.597
Eigen values	9.863	1.671	1.517
Percentage of variance	46.966	7.957	7.223
Cumulative percent	46.966	54.923	62.146
Kaiser-Meyer-Olkin Measure of Sampling Adequacy .903, degree of freedom-210, significance-000, Cranach's Alpha of 0.948 shows questionnaire are reliable.			

Kaiser-Meyer- Olkin (KMO) measure of sampling adequacy (MSA) value of 0.903 reveals that the sample is adequate for conducting factor analysis as any value greater than 0.6 is good for conducting research in social science. The factor analysis executed with principal component analysis using Varimax rotation. Table 2 depicts, the rotated factor matrix comprising all 21 variables, the Eigen values 1 or more than 1 for all extracted factors, the percent of variance and cumulative percent of variance.

Total 3 factors are extracted out of 21 original variables with Eigen values 9.863, 1.671, 1.517.These 3 extracted factors explain 62.146 per cent of variance. It means information is able to economize as more than half of the information is retained to us and only 37 .854 per cent of information is lost. The extracted factors as follows.

Operational- This is the most important factor explaining 46.966 of the total variance and retaining Eigen value of 9.863 and loading range from .501 to .805 . The attributes covered here are publishing of information, web presence, administration area, time and labor, face-to-face, operational HR function. These are basic components of operational e-HRM.

Relational-This factor is concerned with the interaction and networking of the various HRM stakeholders. This factor has total variance of 7.957 and Eigen value of 1.671 and loading range from 0.515 to 0.773. The attributes covered are, human resource planning, job design and analysis, recruitment, selection, training and development, performance appraisal, reward and compensation, relational HR function, pen and paper and automation of HR transactions.

Transformational- The attributes covered are integrated set of web based tools, mutation of HR transactions, HR functions delivery electronically, transformational HR function and role in strategic HR task. These factors have total variance of 7.223 and Eigen value of 1.1571 and loading range from 0.59 to 0.743.

Hypothesis Testing - For testing the hypothesis "It is hypothesized that there is no difference in mean value of present level of e-HRM and test mean value" (hypothesis A), one sample T -test has been used using a hypothised mean value of 3.5, as respondents were asked to use a scale 1-5 in responding the questions. Moreover it is assumed that a mean value less than 3.5 will offer support to the hypothesis A. The aim here is to compare the sample mean with hypothised mean for probability estimation, that the sample mean is different by chance or random occurrence. As SPSS don't have a provision for one tailed t-test so the researcher has converted 2-tailed value in one tailed value by dividing it by 2.

TABLE- 3 One-Sample Tests

Test Value = 3.5	Attributes	Mean	t	Sig.(2-tailed)
Operational Attributes **case-1**	Admin	4.2600	8.190	0.000*
	Time and labour	3.6600	6.086	0.023*
	Face-to-face	4.0000	5.365	0.000*
	Publishing	3.9900	5.056	0.000*
	Web presence	3.8800	4.321	0.000*
	Operational	3.7800	8.219	0.000*
	HRP	3.7400	2.205	0.030*
Relational Attributes **case-2**	Job design	3.4200	-0.692	0.491
	Recruitment	3.8000	2.846	0.005*
	Selection	3.8300	3.249	0.002*
	Training	4.0600	5.527	0.000*
	Per. appraisal	3.9500	4.180	0.000*
	Compensation	3.8000	2.681	0.009*
	Pen and paper	3.8800	3.663	0.000*
	Transactions	3.6700	1.691	0.094*
	Relational	3.6800	1.981	0.050*
Transformational attributes **case-3**	Integrated set	3.6700	1.612	0.110
	Mutation	3.6800	1.811	0.073*
	Electronically	3.7700	2.455	0.016*
	Strategic	3.7800	2.717	0.008*
	Transformational	3.8000	3.146	0.002*

Significance level with*- Null hypothesis rejected or else accepted (Table value of t +1.645, one tailed test, df 99, sig 5%)

Case-1 All the attributes of operational level has low significance values of 0.00 indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected and H1 is accepted. It can be concluded that e-HRM is operational level in Indian organizations.

Case-2 Most of the attributes of relational level has low significance values (less than .05), indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected and H1 is accepted. For attributes transactions, and relational significance level is .094 and .050 respectively for two tailed test. For one tailed test its calculated significance level is .047 and .025 which is

below the .05 and rejects the null hypothesis. In case of attribute job design and analysis significance level is .491 for two tailed test. For one tailed test its calculated significance level is .245 and is much above 0.05, and accepts the null hypothesis. For this attribute there is no difference mean value and assumed test value. So overall null hypothesis is partially rejected and can be concluded that e-HRM is not at relational level for all attributes in Indian organizations.

Case-3 Most of the factors of transformational level has low significance values (less than .05), indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected. For attribute mutation, significance level is .073 for two tailed test. For one tailed test its calculated significance level is .037 which is below .05 and rejects the null hypothesis. In case of attribute integrated set, significance level is .110 for two tailed test. For one tailed test its calculated significance level is .055 and is above 0.05, and accepts the null hypothesis. For this factor there is no difference mean value and assumed value. So overall null hypothesis is partially rejected and can be concluded that e-HRM is not at transformational level for all factors in Indian organizations.

E-HRM Level (public vis-à-vis private)-To test the hypothesis "It is hypothesized that difference in mean value of level of e-HRM between public and private organization is zero" (hypothesis - B) paired sample T test has been used as a statistical tool.

TABLE – 4 Paired Sample Test (PUBLIC VIS-À-VIS PRIVATE)

public vis-à-vis private	**Pair**	**attributes**	**Mean**	**Std. Deviation**	**t**	**Sig. (2-tailed)**
attributes Operational **case-4**	1	Admin	0.0652	1.372	0.322	0.749
	2	Time and labour	-0.173	1.510	-0.781	0.439
	3	Face-to-face	-0.108	1.369	-0.538	0.593
	4	Publishing	-0.065	1.372	-0.322	0.749
	5	Web presence	0.0869	1.244	0.474	0.638
	6	Operational	-0.239	1.551	-1.04	0.302
Relational attributes **case-5**	7	HRP	-0.304	1.774	-1.16	0.251
	8	Job design	-0.217	1.604	-0.919	0.363
	9	Recruitment	0.260	1.718	1.030	0.309
	10	Selection	-0.065	1.481	-0.299	0.767
	11	Training	-0.260	1.625	-1.08	0.282
	12	Per. appraisal	-0.043	1.429	-0.206	0.837
	13	Compensation	-0.108	1.608	-0.458	0.649
	14	Pen and paper	-0.152	1.548	-0.666	0.509
	15	Transactions	-0.173	1.465	-0.805	0.425
	16	Relational	-0.021	1.374	-0.107	0.915
Transformational attributes **case-6**	17	Integrated set	-0.586	1.309	-3.040	0.004*
	18	Mutation	-0.326	1.334	-1.658	0.104
	19	Electronically	-0.391	1.584	-1.675	0.101
	20	Strategic	-0.347	1.580	-1.492	0.143
	21	Transformational	-0.173	1.338	-.881	0.383

Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 99, sig 5%)

Case-4 Null hypothesis-B is accepted for all the attributes of operational e-HRM as the significance level all the factors of operational level is much above 0.05 .So, we can conclude that difference in mean value of level of e-HRM between public and private organizations is zero.

Case-5 Null hypothesis-B is accepted for all the attributes of relational e-HRM as the significance level all the factors of operational level is much above 0.05 .So, we can conclude that the application that difference in mean value of level of e-HRM between public and private organizations is zero.

Case-6 Null hypothesis-B is partially rejected as significance level of the attribute integrated set, is below 0.05. For all other four attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the difference in mean value of level of e-HRM between public and private organization is not zero for all the attributes of transformational e-HRM.

E-HRM Level (manufacturing vis-à-vis services) -To test the hypothesis "It is hypothesized that difference in mean value of level of e-HRM between manufacturing/ mining and services organization is zero" (hypothesis C) paired sample T test has been used as a statistical tool.

TABLE –5 Paired Sample Test (MANUFACTURING VIS-À-VIS SERVICES)

Manufacturing vis-à-vis services	Pair	**Attributes**	**Mean**	**Std. Deviation**	**T**	**Sig. (2-tailed)**
Operational attributes **case-7**	1	Admin	-0.131	1.339	-0.606	0.548
	2	Time and Labour	0.026	1.852	0.088	0.931
	3	Face-to-Face	-0.447	1.266	-2.17	0.036*
	4	Publishing	-0.210	1.211	-1.07	0.291
	5	Web Presence	0.052	1.089	0.298	0.767
	6	Operational	-0.657	1.301	-3.11	0.004*
Relational attributes **case-8**	7	HRP	-0.526	1.623	-1.99	0.047*
	8	Job design	-0.236	1.618	-0.902	0.373
	9	Recruitment	-0.157	1.778	-0.547	0.588
	10	Selection	-0.210	1.544	-0.840	0.406
	11	Training	-0.447	1.427	-1.99	0.048
	12	Per. appraisal	-0.184	1.504	-0.755	0.455
	13	Compensation	-0.421	1.686	-1.53	0.132
	14	Pen and paper	-0.315	1.561	-1.24	0.220
	15	Transactions	-0.421	1.426	-1.82	0.077
	16	Relational	-0.157	1.325	-.734	0.468
Transformational attributes **case-9**	17	Integrated set	-0.315	1.612	-1.207	0.235
	18	Mutation	-0.263	1.287	-1.260	0.216
	19	Electronically	-0.684	1.612	-2.61	0.013*
	20	Strategic	-0.526	1.606	-2.02	0.041*
	21	Transformational	-0.447	1.408	-1.958	.058

Significance level with*- Null hypothesis rejected or else accepted (Table value of f+1.96, df 49, sig 5%)

Case-7 Null hypothesis-C is partially rejected as significance level of two attributes face-to-face and operational is below 0.05. For all other four factors null hypothesis is accepted as significance level is much above .05. So it can be concluded that the application in difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the factors of operational e-HRM.

Case-8 Null hypothesis-C is partially rejected as significance level of two attributes of relational e-HRM, HRP and training and development is below 0.05. For all other eight attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the application in difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the attributes of relational e-HRM.

Case-9 Null hypothesis-C is partially rejected as significance level of two attributes of transformational e-HRM, electronically and strategic is below 0.05. For other three attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the application in difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the attributes of transformational e-HRM.

Conclusion and Recommendations

From factor analysis three factors are extracted out of 21 original variables. These three extracted factors widely discussed in the literature comprises of operational, relational, and transformational.

By examining the data, and testing the hypothesis it can be concluded that e-HRM at operational level but e-HRM is not at relational level and transformational level for all attributes. In other words it can be said that e-HRM is partially at relational and transformational level in Indian organization. In this case Indian organisation have not followed the proper hierarchy of e-HRM implementation rather than relational and transformational level has been implemented simultaneously .Indian organisation have to work on "job design and analysis" attributes of relational e-HRM and "integrated set of web based tools" attributes of transformational e-HRM. The result shows that level of "job design and analysis and analysis" attribute is below the test value, so it can be said it is not fully on electronic platform and in few organization still HR functions uses separate software for each function rather than using integrated set of web based tools.

Research statistics shows that there is no difference in mean values for all attributes of operational and relational e-HRM, but mean value of level of transformational e-HRM between public and private organization is not same for all attributes. Further analysis shows difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the attributes of operational relational and transformational e-HRM. So it can be concluded there exists a difference in level of e-HRM between manufacturing and services organization

From the result it can be concluded private sector has better mean value for the attribute integrated set , in the similar manner services has better mean value over manufacturing for the attributes face-to-face, operational, selection, electronically and strategic (negative sign of t value). Public sector organizations and manufacturing organization must learn lessons from their counterpart (Private and services), take a cue and harness the benefit of e-HRM and be competitive. Similarly Private organization and services should strive to raise their level.

E-HRM should actually be a deliberate step by Indian organizations to advance in the digital age, by freeing themselves from daily operational, monotonous requirements and ascending to newer level like relational and to highest level, transformational, making it more in tune with the decision making, understanding of

the employees, preparing change ready workforce, knowledge management, employee brand. For successful implementation of e-HRM organization must pay attention to culture of HR professionals, mechanism and service delivery of HR process, technology adopted, roles and responsibilities of individuals performing HR activities, developmental needs, competencies of the work force. For making it successful HR professional has to support at system at every step.

Present research paves the way of further research which can be based on factors responsible for level of e-HRM or ways to improve the level of e-HRM and many more. Research has some limitation as researcher has selected eight organizations so its result cannot be blindly generalized to all other organizations. Contextual analysis is important before implementing the results. The study is based on non- probability sampling. Participants were selected based on judgmental and convenience sampling techniques.

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Title of the paper -E-HRM Attributes and Internal Stakeholder's Satisfaction: A Quantitative Study in Select Indian Organisations".

ABSTRACT

Present time business has lots of stakeholders but internal stakeholder i.e. employees are the most important as they are the deciding factor and determine the direction and level of the business especially in knowledge economy where services are high in demand. Higher satisfaction level of employee doesn't guarantee high level of performance but desirable to remain competitive in business. Some organisations proactively and few with the rapid development of e-commerce and significant rise in virtual, networked organisations has compelled HR professionals to sail in digital world and offer services on electronic platform resulting in emergence of electronic human resource (e-HRM). E-HRM is integration of information and communication technology (ICT) and HR mechanism, content, process to provide services to different stakeholders and simultaneously providing competitive edge to the organisation. There are several e-HRM attributes which determines the satisfaction of employee. To measure the present level of e-HRM attribute, difference in level of e-HRM attributes based on employees demographic variables, and increase in internal stakeholder's satisfaction, questionnaire has been formulated, response sought from operatives, supervisors, and managers of select Indian organisations and one sample t test, one way ANOVA, and regression analysis has been used respectively as an statistical tool of measurement.

Key words-stakeholder, e-commerce, digital, ANOVA, regression

JEL classification- M12, M15, M10,

INTRODUCTION

Workforce, the most important asset of any organization becomes liability if they are not provided prerequisite attribute of satisfaction to align with corporate goals and visions. According to Ghosh (2002), in an organization the most valuable input is the human element. The success or failure of an organization depends to a large extent on the persons who manage and run the organization. In business the greatest asset is the human resource of the enterprise and not the plant, equipment or the big buildings it owns. The committee Van Rijn (2001) concluded that in contemporary times there is a shortage of qualified employees, the employees became at least as important as the customers. The committee suggested that employees should be kept satisfied and motivated and improving the service provided by the HR department is mentioned as a part of the solution. It is therefore expected that the adoption of e-HRM technologies is driven by need for client service improvements.

Empowerment of employees in availing HR services is a one of substantial breakthrough in HRM to navigate it to higher levels. The way HR services offered in an organisation must be easy to access, easy to use and simultaneously useful to use. HR service delivery should facilitate role clarity, internal communication, and must act as a decision support system. Manpower satisfaction level increases if there is flexibility and transparency in HR service delivery.

Traditional HRM is paper intensive, people intensive, time intensive, where e-HRM is use of computer systems, interactive electronic media, and telecommunication networks to carry out the functions of the human resources management department. E- HRM managers always strive to provide a seamless integration of all HRM services with a common goal of internal stakeholder's satisfaction. According to Gowan Mary (2001), e-HRM is a web-based solution that takes advantage of the latest web application technology to deliver an online real-time human resource management solution. According to Pratheepan and Arulrajah (2012), e-HRM is the application of IT for HR practices which enables easy interactions within

employees and employers. It stores information regarding payroll, employee personal data, performance management, training, recruitment and strategic orientation. It decreases the paperwork considerably and allows easy access to large volume of data. The employee can also keep track of his/her achievements without having manual procedures. It can also be used for execution of different HR strategies in an organisation.

Properly managed e-HRM can act as a communication tool which is flexible (24*7), anywhere anyplace, accurate, timely, complete, directed to all appropriate or required recipients, and crafted in a way that's understood by the intended audience. Through e-HRM employees and/or teams may have input into and influence over HR function from high-level strategic decisions to routine day-to-day decisions about how to do their own jobs. Empowerment is about employee participation through increased delegation of responsibility down throughout the organizational chain of command, which is facilitated by e-HRM application. At the same time not providing mundane repetitive tasks in self service mode can be a big drag on the HR function leaving them with little time to do anything else. Instead of HR executives handling everyday routine tasks such as change in address, pay slip, tax deduction, training and checking holiday entitlements, can be handled by the employees themselves or their line managers. E-HRM imbibes a system of transparency and minimizes or eliminates intervention from HR staff, allowing managers and employees to perform HR tasks directly with the self service tools hence inculcating the sense of empowerment.

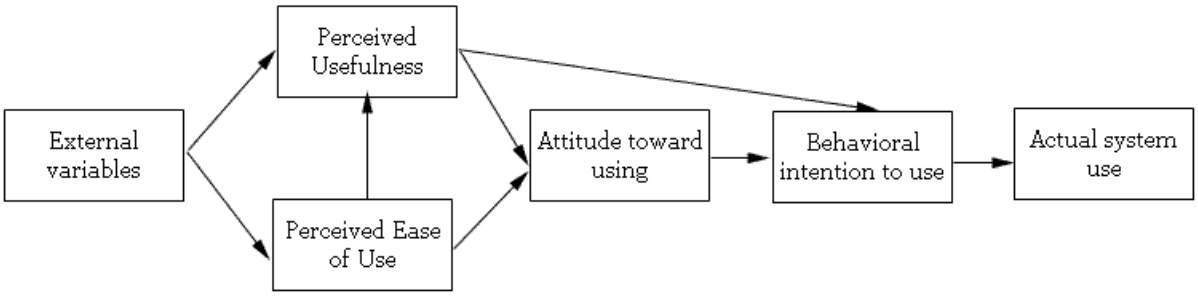
The use of web-based technologies for human resource management practices and policies is maturing within organizational lifecycle and facilitating transparency. It is important for each member to understand their role and role overlapping and ambiguity has to be minimised. The implementation of the e-HRM technology has the consequence that specific HR activities are devolved to managers and employees and thus the implementation of e-HRM technology influences the division of HR responsibilities. The organizations' overall strategy

has an influence on the division of the responsibilities however link provided and channel of communication assigned somehow facilitates division of authority and responsibilities between managers, employees and HR professionals hence role clarity**.**

LITERATURE REVIEW

Figure-1 elaborates the Technology Acceptance Model (TAM) developed by Davis (1989), is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. Perceived usefulness - defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance". Perceived ease-of-use - Davis defined this as "the degree to which a person believes that using a particular system would be free from effort".

Figure: 1 Technology Acceptance Model (TAM)



Source-Davis, F. D. (1989). "Perceived Usefulness, perceived ease of use, and user acceptance of information technology." *MIS Quarterly*, pp. 318-340

According to Maatman, M., (2006), it is expected that when end-user understand the e-HRM goals and the intended effects of the e-HRM technology, it will positively affect the use of the e-HRM technology which is expected to lead to the intended use of the technology.

Venkatesh, et al. (2003), in their study "User acceptance of information technology: toward a unified view" mentions that usefulness is more strongly linked to behaviour intentions of user and actual system use than ease of use.

As per Ruel et al. (2004) the goals that drive parties, stakeholders, and individuals in organisations will set a framework for the real e-HRM applications and approaches to be implemented. Ruta (2005), in his study of implementation of HR employee portal in Italian subsidiary of Hewlett-Packard (HP) has demonstrated that usage of HRIS increased when IT user acceptance principle were integrated with change management principles. IT user acceptance model focused on "what" predicted intentions to use the HR portal, while change management theory focused on "how" intentions to use the HR portal could be influenced.

Voermans and Veldhovern (2007) conducted an empirical study at Philips measuring attitude towards e-HRM using online questionnaire in which 99 managers and 257 employees with Philips electronics (Netherlands) participated. Attitudes towards adoption, using TAM as basis, maps against Ulrich (1997) HR roles, found variables that might link to support for e-HRM. Those with a strategic preference more likely to have a positive attitude to e-HRM, employee champion role preferred more negative, do not find positive correlation between administration role and e-HRM. The preliminary investigation by Yusuf et al. (2011) made on perceived usefulness, perceived ease of use, and attitude towards using e-HRM among 51 HR professionals in Malaysia is illustrated in research paper titled "HR roles and e-HRM: some initial evidence from Malaysia", mentions e-HRM provides the human resource function with the opportunity to create new avenues for contributing to organizational success. Literature review shows that TAM into e-HRM studies has resulted in notions that the use of e-HRM by the targeted employee is highly determined by level of usefulness to HR information technology than easiness to use.

According to Keebler & Rhodes (2002), to improve the service level to clients of the HR department it is important to focus on the experience of the clients requiring service of the HR department. Gupta (2008) stated that the leading solution for e-HRM is System Manager, HR Manager, Time Manager, Payroll Manager, and Report Manager. According to Prasad (2003), the concept of computerized HRIS is derived as an organized method of providing information about human resources, their functioning, external factors relevant to managing human resources. Sacht (2007) observes, web and internet technologies have already given workers direct access to each other, to HR, and to business information with such ease and intelligence that every worker can contribute more directly to business results . More recently, electronic databases, audio and video recordings, interactive tools and multimedia presentations have become available to extend the techniques for capturing and disseminating content. As asserted by Kettley and Reilly (2003), today employees tend to ask for advice rather than administrative assistance. This is the reverse of the situation in the late 90s. Furthermore, the nature of HR departments has changed because of the development of e-HRM. A few years ago businesses tended to have more, but less qualified HR staff whereas today the reverse applies.

Lepak & Snell (1998) stated that HR departments are forced to look for alternative paths for the delivery of HR activities to meet the increasing demands of flexibility and to maintain the role as service provider to managers and employees. As per Keebler & Rhodes (2002), with MSS and ESS, organizations are trying to meet the HRM needs of managers and employees and at the same time support the organizational business objectives. According to Ruta (2005), many of the reporting-type activities, previously performed by HR professionals, can now be performed online by managers and employees. Scott (2008) observes that if one would separate the HR function into two broad components, namely transactional and non-transactional activities, then it is easy to envisage the transactional components being e-

enabled. In most of the non-transactional HR activities, a continuum of e-possibilities exists. The conservative point on the continuum would suggest that no electronic mechanisms should be used to replace "people" activities, while the radical view on the continuum would suggest that technology could replace all direct human interaction with the HR customer resulting in empowerment of internal customers. The first Cedar Crestone Asia Pacific-APAC HR Systems Survey (2008-2009) discovered that the number one business initiative for APAC survey respondents is a focus on metrics and analytics and self service and moving to an HR service centre approach enables organizations to serve more employees with their HR staff.

As per Prabakaran (2012), recently, a second wave of ESS shifted the focus from these purely efficiency based applications towards empowering employees and managers to take more responsibility for their jobs and development. Career planning, skills profiles, learning, objective settings, appraisals and more and more analytics are increasingly popular ESS applications. As per web interface face – employee self service portal / Mystro HR and payroll (2013), empowering employees in their day-to-day functioning requires giving them anytime, anywhere access to basic employee facing processes as well access to information about the people in their teams. In absence of these, employees are left wondering and waste time chasing people and paper.

As per Sanayei and Mirzaei (2008), on their own desktops, line managers nowadays perform appraisals, evaluate employee costs, generate HR reports (turnover, absenteeism), process training requests and oversee competence management. Employees have access to everything they need to change and manage their personal files, plan their development, process financial documents and apply for new jobs. HRM professionals are facing a digital future. As per Yao, et.al (2010), e-HRM facilitates openness and transparency and most of the information is just only far away from one mouse click, it supports individual as well as

group members in making decisions, especially in case of group decision making. E-HRM tools is used in information dissemination, opinion sharing and it facilitates the complete decision mechanism.

In the view of Armstrong (2003), e-HR provides the information required to manage HR processes. These may be core employee database and payroll systems but can be extended to include such systems as recruitment, e-learning, performance management and reward. The system may be web-based, enabling access to remote or online and at any time. The information provided by the e-HR process can be communicated across organisations. Sadagopalan (2004) observes that information systems to support the personnel function have once again taken the record keeping view rather than the decision support view particularly in the Indian context, it is limited to creating large databases often of questionable value and accuracy. Slowly this trend is changing at least in more enlightened companies

According to Mittal and Kumar (2006), with ICT, desired data is being replicated online between various information centres from time to time. As a result the consolidated information is available to the management for effective decision making instantaneously and they need not to wait for collection, compilation and consolidation of information, which used to take lot of time earlier As per Yao, et al. (2010), if e-HRM implemented and used correctly, can improve the quality of group decision making significantly by minimizing the negative effects of group decision-making and by maximizing the benefits of group collaboration and decision-making. E-HRM uses different information communication tools for providing HR services; these tools are more concerned with providing and compiling relevant data and information. These tool acts as an information support system.

As per Awwal (2009), ICT enables plethora of criteria and alternatives for any decision, extends the decision, historic data keeps on updated with time so that decision environment

remains current. Segregation of data through applications and adequacy of hardware to meet user's required performance criteria today across wide area network is providing new dimensions to decision making process. According to Mittal and Kumar (2006), e-HRM minimises the lead time and saving of resources both in terms of manpower, paper movement and cost on communication and operation. System has helped in early consolidation of accounts particularly in case of employee's expenses, salary, income tax returns and provident fund etc.

According to Keebler & Rhodes (2002) the e-HRM technology should not only be designed to make the HR processes as efficient and cheap as possible, but the e-HRM technology should be made useable too, to increase the service experience of the managers and employees. In this way a client service improvement of the HR system can be achieved. According to Watson Wyatt's (2000) survey, web technology is the predominant method for delivering HR-related services to employees and managers, and offers significant opportunities to improve communication, knowledge sharing and HR delivery systems. E-HRM also involves many more stakeholders besides personnel in the HR department and the business and also includes job applicants and employees from all levels. Kettley and Reiley (2003) states that a computerized human resource information system consists of a fully integrated, organisation wide network of HR-related data, information, services, databases, tools and transactions .

As per Sacht (2007), e-HRM tools are not yet available everywhere in the developing world, they are spreading rapidly and present a unique opportunity for developing countries to benefit most from the technological revolution now unfolding: low-cost telecommunications systems can help countries to leapfrog ahead through distance education, distance health services, and much better access to markets and private sector partners abroad.

RESEARCH OBJECTIVE AND METHODOLOGY

The literature review reveals very little empirical study exclusively on e-HRM attributes improving stakeholder satisfaction. The limited research that has been undertaken is mostly based on western countries not from emerging countries like India which is all together different from western countries, so there is a possibility of different result. The present research in its endeavour identifies research gap and formulates objectives.

- To assess the present level of e-HRM attribute in context to internal stakeholders satisfaction?
- To analyse the difference in level of e-HRM attributes based on employees demographic variables.
- To assess the impact of E-HRM attributes in Indian organizations in terms of increase in internal stakeholder's satisfaction.

Research Hypothesis

H0 A)-It is hypothesized that the present level of e-HRM attributes in context to internal stakeholder's satisfaction is at mean (test) value.

H0 B)-It is hypothesized that there is no difference in e-HRM attribute level based on employees demographic variables.

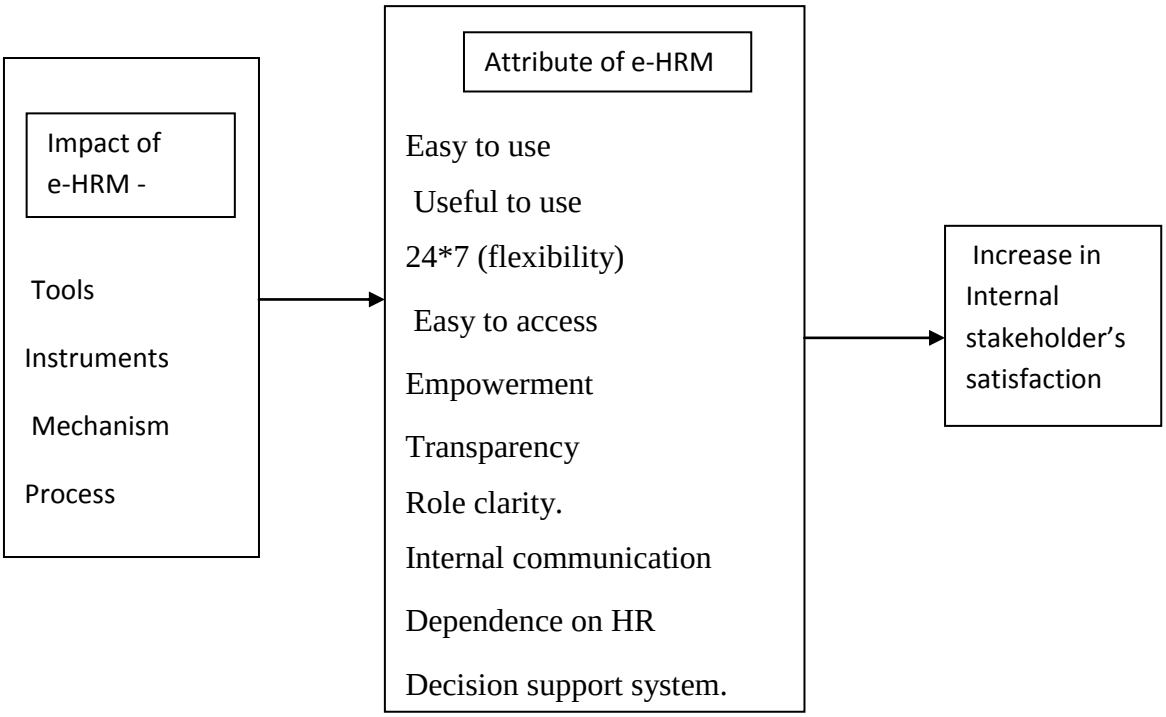
H0 C) - It is hypothesized that e-HRM attributes have not significant impact on internal stakeholder satisfaction.

Research Model

Research model developed on literature survey envisage that HRM function delivered in electronic form supported by web based, wireless, multimedia, software and hardware tools and instruments generates mechanism and process resulting in e-HRM attributes or power of HR function, leading to increase in internal stakeholder satisfaction as final output. From

literature review total ten e-HRM attribute has been identified and model has been portrayed taking increase in internal stakeholder satisfaction as a dependent variable.

Figure: 2 Internal stake holder's satisfaction model (Portrayed)



Source – Literature review by scholar

Sample unit and Sample Size: The researcher has selected eight Indian organizations as sample organisations and it consists of public and private organizations both from manufacturing **/**mining sector and services sector in equal numbers.

Table 1: Nature of business

sample organisation	Manufacturing/Mining	Services

Public	1.Power generator 2.Mining	3. Bank 4. Insurance
Private	5. Automobile manufacturer 6. Tech-manufacturing company	7. Bank 8. Software developer

Source –Formulated by scholar

Table-1 depicts the nature of business of sample organisations. These blue chip organisations are having sound HR practices and market leader in that particular segment. Since primary data is being used for this study, so identity of the organisations has been not disclosed. Target respondents are operative, supervisors and managers of these organizations. The sample size of the research consists of 400 employees. The time period of the study (data collected) is from April 2013 to August 2013.

Data Collection: Structured questionnaire with 5-point response scale (not at all, very little, to some extent, to great extent, very much) has been used as a research instrument. The statement of questionnaire is as follows.

- To what extent do you consider e-HRM is easy to use?
- To what extent do you consider e-HRM is useful to use?
- To what extent do you consider e-HRM supports 24*7 (flexibility) service deliveries?
- To what extent do you consider e-HRM is easy to access?
- To what extent do you consider e-HRM empowers personnel?
- To what extent do you consider e-HRM improves transparency?
- To what extent do you consider e-HRM facilitates role clarity?
- To what extent do you consider e-HRM improves internal communication?

- To what extent do you consider e-HRM reduces dependence on HR professional?
- To what extent do you consider e-HRM acts as decision support system (DSS) in taking timelier and better decision?
- To what extent e-HRM increases your satisfaction as an employee?

These questionnaires were sent on line to the employees and in some cases questionnaire in hard copy was also provided. Out of 160 questionnaire send online, 28 respondents filled the questionnaire and submitted i.e. response rate of 17.5% and out of 240 questionnaire provided to respondents in hard copy format 116 responses were collected i.e. response rate of 48.3% hence in total 144 responses out of a sample size of 400 i.e. overall response rate of 36%. First page of survey dealt with the introduction, purpose of the study, assurance of confidentiality and anonymity. Second page and onwards dealt with profile of respondents and actual survey.

Data analysis and interpretation: The statistical techniques were applied using the Statistical Package for the Social Sciences (SPSS) 16.0. One sample t-test had been used to test the hypothesis A, one way ANNOVA has been used to test hypothesis B, regression analysis has been develop a model and test hypothesis C.

TABLE 2: One-Sample t Test of e-HRM attributes

Attributes	Test Value = 3.5		Degree of freedom = 143
	Mean	t	Sig. (2-tailed)
Easy to use	4.020	6.741	.000*
Useful to use	4.159	9.224	.000*
24*7 (flexibility)	3.916	4.712	.000*
Easy to access	4.027	6.804	.000*
Empowers personnel	3.923	5.028	.000*

Improves transparency	4.118	8.344	.000*
Role clarity	4.083	8.169	.000*
Internal communication	3.951	6.158	.000*
Reduces HR dependence	3.826	4.036	.000*
Decision support system	3.881	4.826	.000*
Improves satisfaction	3.9583	6.79	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t +1.645, one tailed test, df 143, sig 5%)

Table 2 shows all the attributes of e-HRM has low significance values of 0.00, indicates that there is a significant difference between the test value and the observed means. So the null hypothesis (H0) A is rejected. With Positive t value it can be concluded that e-HRM attributes of employee in context to e-HRM is positive.

TABLE 3: One-way ANOVA of demographic variable-Qualification

Att#	Qual#	N	Mean	f	Sig.	Att#	Qual#	N	Mean	f	Sig#
Easy to use	10	2	3.500	4.41	.005*	Role clarity	**10**	2	4.500	1.24	.298
	10+2	15	3.600				**10+2**	15	3.800		
	Degree	62	3.838				**Degree**	62	4.016		
	P. G.	65	4.307				**P. G.**	65	4.200		
Useful to use	10	2	4.000	2.07	.108	Internal	**10**	2	4.500	1.05	.375
	10+2	15	4.000				**10+2**	15	3.933		

	Degree	62	4.000				**Degree**	62	3.822		
	P. G.	65	4.353				**P. G.**	65	4.061		
24*7(flexibility)	10	2	4.500	1.38	.253	HR dependence	**10**	2	4.000	.985	.402
	10+2	15	3.600				**10+2**	15	3.600		
	Degree	62	3.806				**Degree**	62	3.725		
	P. G.	65	4.076				**P. G.**	65	3.969		
Easy to Access	10	2	4.000	1.38	.252	Decision support system	**10**	2	4.000	.497	.685
	10+2	15	3.600				**10+2**	15	3.600		
	Degree	62	4.016				**Degree**	62	3.903		
	P. G.	65	4.138				**P. G.**	65	3.923		
Empowerment	10	2	3.500	1.99	.118	Satisfaction	10	2	3.500	.494	.687
	10+2	15	3.466				10+2	15	3.866		
	Degree	62	3.854				Degree	62	3.919		
	P. G.	65	4.107				P. G.	65	4.030		
Transparency	10	2	4.500	1.25	.294	(Att# Attributes, Qual# Qualification) Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 143, sig 5%)					
	10+2	15	3.733								
	Degree	62	4.112								

	P. G.	65	4.200			

Source – Data analysis by scholar

Null hypothesis (H0) B is accepted for the most of attribute as the significance level is above .05(see table-3) but null hypothesis is rejected for the attribute "easy to use" as the significance level is .005(see table-3) which is much below the assumed significance level of F at 0.05, So there is significant difference in attribute "easy to use". Hence it can be concluded for demographic variable "qualification" null hypothesis is partially rejected.

TABLE 4: One -way ANOVA of demographic variable -Position

At#	Position	N	Mean	f	Sig	At#	Position	N	Mean	f	Sig
Easy to use	Operative	25	3.560	3.89	.023*	Role clarity	Operative	25	4.040	.159	.853
	Supervisor	46	4.108				Supervisor	46	4.043		
	Manager	73	4.123				Manager	73	4.123		
Useful to use	Operative	25	4.000	.521	.595	communication	Operative	25	3.880	1.082	.342
	Supervisor	46	4.195				Supervisor	46	4.108		
	Manager	73	4.191				Manager	73	3.876		
24*7(flexibility)	Operative	25	3.480	1.95	.044*	HR dependence	Operative	25	3.840	.184	.832
	Supervisor	46	3.978				Supervisor	46	3.891		
	Manager	73	4.027				Manager	73	3.780		
Easy to	Operative	25	3.560	4.01	.020*	DSS.	Operative	25	3.800	.220	.803
	Supervisor	46	4.152				Supervisor	46	3.847		

	Manager	73	4.109				Manager	73	3.931		
empowerment	Operative	25	3.400	4.36	.014*	Satisfaction	Operative	25	3.800	.646	.526
	Supervisor	46	3.978				Supervisor	46	3.956		
	Manager	73	4.068				Manager	73	4.013		
Transparency	Operative	25	4.000	.549	.579	(At# Attribute) Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 143, sig 5%)					
	Supervisor	46	4.065								
	Manager	73	4.191								

Source – Data analysis by scholar

Null hypothesis (H0) B is accepted for the attribute like "useful to use", "transparency" , "role clarity" "communication", "dependency", "DSS (Decision support system)" and "satisfaction" as the significance level is much above .05but null hypothesis is rejected for the attribute "easy to use", "24*7 (flexibility)" , "easy to access", "empowerment" as the significance level is below the assumed significance level of F at 0.05 (see table-4). So, there is significant difference in attribute "easy to use", "24*7 (flexibility)", "easy to access", "empowerment". Hence it can concluded for demographic variable "Position" null hypothesis is partially rejected.

TABLE 5: One-way ANOVA of demographic variable -Area

Att#	Area	N	Mean	F	Sig.	Att#	Area	N	Mean	f	Sig.
Easy to use	Mktg#	13	4.615	1.54	.183	Role clarity	Mktg#	13	4.308	.485	.787
	HR	13	3.846				HR	13	4.231		
	IT	16	3.750				IT	16	3.938		
	Finance	20	3.900				Finance	20	4.000		
	Oper#	61	4.032				Oper#	61	4.033		
	Others	21	4.047				Others	21	4.191		
Useful to use	Mktg#	13	4.384	1.16	.334	Internal communication	Mktg#	13	4.308	2.08	.048*
	HR	13	4.154				HR	13	4.308		
	IT	16	3.937				IT	16	3.563		
	Finance	20	3.850				Finance	20	3.600		
	Oper#	61	4.279				Oper#	61	3.984		
	Others	21	4.143				Others	21	4.048		
24*7 (flexibility)	Mktg#	13	4.231	1.24	.293	HR dependence	Mktg#	13	3.923	1.45	.211
	HR	13	4.000				HR	13	3.846		
	IT	16	3.563				IT	16	3.438		

	Finance	20	4.100				Finance	20	3.500	
	Oper#	61	3.771				Oper#	61	3.9180	
	Others	21	4.191				Others	21	4.0952	
Easy to Access	Mktg#	13	4.539	1.92	.094	Decision support system (DSS)	Mktg#	13	4.1538	.819	.538
	HR	13	3.923				HR	13	3.8462		
	IT	16	3.750				IT	16	3.5000		
	Finance	20	4.100				Finance	20	3.9000		
	Oper#	61	3.885				Oper#	61	3.9508		
	Others	21	4.333				Others	21	3.8095		
Empowerment	Mktg#	13	4.154	.701	.624	Satisfaction	Mktg#	13	4.1538	.744	.592
	HR	13	4.231				HR	13	4.2308		
	IT	16	3.813				IT	16	3.8125		
	Finance	20	3.700				Finance	20	3.9500		
	Oper#	61	3.869				Oper#	61	3.8689		
	Others	21	4.048				Others	21	4.0476		
Tran	Mktg#	13	4.000	1.33	.256	(Att#- Attribute Mktg# Marketing Oper#					

	HR	13	4.385			Production / Operation) Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 143, sig 5%)
	IT	16	3.875			
	Finance	20	4.000			
	Oper#	61	4.066			
	Others	21	4.476			

Source – Data analysis by scholar

Null hypothesis (H0) B is accepted for the most of attribute as the significance level is much above .05 but null hypothesis is rejected for the attribute" communication" as the significance level is .048(see table-5) which is below the assumed significance level of F at 0.05, So there is significant difference in attribute "communication". Hence it can conclude for demographic variable "Functional area" null hypothesis is partially rejected.

TABLE 6: One-way ANOVA of demographic variable -Experience

Att#	Exp#	N	Mean	f	Sig	Att#	Exp#	N	Mean	f	Sigf
Easy to use	**1-5**	51	3.960	.235	.918	Role clarity	**1-5**	51	3.882	1.252	.292
	5-10	21	3.952				**5-10**	21	3.857		
	10-15	21	4.095				**10-15**	21	4.047		
	15- 20	23	4.000				**15- 20**	23	4.130		
	> **20**	28	4.142				> **20**	28	4.607		
Usef	**1-5**	51	4.176	.379	.823	Inter	**1-5**	51	3.902	1.252	.292

	5-10	21	4.000				**5-10**	21	3.904		
	10-15	21	4.190				**10-15**	21	3.714		
	15- 20	23	4.087				**15- 20**	23	3.956		
	> 20	28	4.285				**> 20**	28	4.250		
24*7 (flexibility)	**1-5**	51	3.980	1.97	.102	HR dependence	**1-5**	51	4.019	1.285	.279
	5-10	21	3.619				**5-10**	21	3.571		
	10-15	21	4.142				**10-15**	21	3.571		
	15- 20	23	3.521				**15- 20**	23	3.782		
	> 20	28	4.178				**> 20**	28	3.892		
Easy to Access	**1-5**	51	3.960	1.22	.307	Decision support system (DSS)	**1-5**	51	3.725	.956	.434
	5-10	21	3.857				**5-10**	21	4.142		
	10-15	21	4.047				**10-15**	21	3.809		
	15- 20	23	3.913				**15- 20**	23	3.869		
	> 20	28	4.357				**> 20**	28	4.035		
Empowerment	**1-5**	51	3.803	.765	.550	Satisfaction	**1-5**	51	3.862	1.010	.405
	5-10	21	4.000				**5-10**	21	4.000		
	10-15	21	3.952				**10-15**	21	3.761		

	15- 20	23	3.782				**15- 20**	23	4.087		
	> 20	28	4.178				**> 20**	28	4.142		
Transparency	**1-5**	51	4.019	2.78	.029*	(Att#-Attribute Exp# Experience) Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 143, sig 5%)					
	5-10	21	3.857								
	10-15	21	4.190								
	15- 20	23	3.956								
	> 20	28	4.571								

Source – Data analysis by scholar

Null hypothesis (H0) B is accepted for the most of attribute as the significance level is much above .05 but null is rejected for the attribute "communication" as the significance level is .048 which is below the assumed significance level of F at 0.05(see table-6), so there is significant difference in e-HRM satisfaction level of employees based on attribute "transparency". Hence it can conclude for demographic variable "Experience" null hypothesis is partially rejected.

TABLE 7: One-way ANOVA: of demographic variable -Gender

Att#	Gen#	N	Mean	f	Sig	Att#	Gen#	N	Mean	f	Sig
Easy to use	M	127	4.000	.541	.463	Role clarity	M	127	4.102	.529	.468
	F	17	4.176				F	17	3.941		
Useful to use	M	127	4.181	.666	.416	Internal	M	127	3.952	.003	.960
	F	17	4.000				F	17	3.941		

24*7	M	127	3.937	.394	.531	HR	M	127	3.803	.615	.434
	F	17	3.764				F	17	4.000		
Access	M	127	4.015	.179	.673	DSS	M	127	3.889	.072	.788
	F	17	4.117				F	17	3.823		
Empowers	M	127	3.913	.109	.741	Satisfaction	M	127	3.960	.009	.926
	F	17	4.000				F	17	3.941		
Transparency	M	127	4.102	.334	.564		(Att#- Attribute, Gen#- Gender) Significance level with*- Null hypothesis rejected or else accepted				
	F	17	4.235								

Source – Data analysis by scholar (Table value of f +1.96, df 143, sig 5%)

Null hypothesis (H0) B is accepted for all the attributes as the significance level is much above .05(see table-7), so null hypothesis is accepted. Hence it can be concluded there is no significant difference in e-HRM attribute when "Gender" is taken as a demographic variable.

TABLE 8: One-way ANOVA of demographic variable -Age

Att#	Age	N	Mean	F	Sig	Att#	Age.	N	Mean	F	Sig
Easy to use	20-30	52	3.903	.582	.628	Role clarity	20-30	52	3.903	3.384	.020*
	30-40	48	4.083				30-40	48	4.083		
	40-50	21	4.190				40-50	21	4.190		
	50-60	23	4.000				50-60	23	4.000		
Us	20-30	52	4.096	.210	.889	Co	20-30	52	3.769	1.365	.256

	30-40	48	4.208				30-40	48	4.020		
	40-50	21	4.238				40-50	21	4.000		
	50-60	23	4.130				50-60	23	4.173		
24*7 (flexibility)	20-30	52	3.942	1.189	.316	HR Dependence	20-30	52	3.769	.171	.916
	30-40	48	3.708				30-40	48	4.020		
	40-50	21	4.047				40-50	21	4.000		
	50-60	23	4.173				50-60	23	4.173		
Easy to Access	20-30	52	3.846	2.589	.055	DSS	20-30	52	3.769	.508	.677
	30-40	48	4.041				30-40	48	3.937		
	40-50	21	3.952				40-50	21	4.047		
	50-60	23	4.478				50-60	23	3.869		
Empowerment	20-30	52	3.788	.563	.640	Satisfaction	20-30	52	3.846	1.304	.276
	30-40	48	3.979				30-40	48	3.916		
	40-50	21	4.095				40-50	21	4.238		
	50-60	23	3.956				50-60	23	4.043		
Transparency	20-30	52	4.019	1.957	.123	(Att#- Attribute) Significance level with*- Null hypothesis rejected or else accepted. (Table value of f +1.96, df 143, sig 5%)					
	30-40	48	4.041								
	40-50	21	4.095								
	50-60	23	4.521								

Source – Data analysis by scholar

Null hypothesis (H0) B is accepted for the most of attribute as the significance level is much above .05 but null hypothesis is rejected for the attribute "role clarity" as the significance level is .020 (see table-8), which is below the assumed significance level of F at 0.05, so there

is significant difference in e-HRM satisfaction level of employees based on attribute "role clarity". Hence it can be conclude for demographic variable "Age" null hypothesis is partially rejected.

TABLE 9: Regression Coefficient

(Dependent Variable: increase in satisfaction level)

Attributes	Unstandardized Coefficients		t	Sig.
	B	Beta		
Constant	.518		1.866	.064
Easy to use	.030	.035	.419	.676
Useful to use	-.015	-.016	-.198	.843
24*7 (flexibility)	.094	.120	1.973	.042*
Easy to access	-.062	-.071	-.954	.342
Empowers personnel	.293	.366	4.415	.000*
Improves transparency	-.074	-.081	-1.023	.308
Role clarity	.128	.136	1.971	.043*
Internal communication	.048	.052	.764	.446
Reduces dependence	.156	.187	2.737	.007*
Decision support system	.288	.337	5.453	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t +1.96, df 143, sig 5%)

Table – 9 depicts attribute "Easy to use", "Useful to use", "Easy to access", "Improves transparency", "Internal communication" is not statistically significant and doesn't fit in regression model. Based on this table the estimated model e-HRM attributes which increases significant satisfaction level is .518+.293 (Empowers personnel) +.288(Decision support

system) + .156 (Reduces dependence) + .128 (Role clarity) + .094 (24*7 (flexibility)). It can be said that 50% of e-HRM attributes has significant positive impact on internal stakeholder's satisfaction, hence null hypothesis (H0) C is partially rejected.

CONCLUSION AND RECOMMENDATIONS

Result shows that present level of e-HRM attributes is above test value; hence, it becomes evident that in electronic form of HRM all the characteristics or attributes are present in Indian organization.

For demographic variable "Gender" there is no significant difference in e-HRM attribute but in case of demographic variable "qualification" there is significant difference in attribute "easy to use". It is obvious higher the education level easier to use e-HRM. Proper training and awareness programme should be conducted specially for less qualified employee. For demographic variable "position", there is significant difference in level of attribute "easy to use", "24*7 (flexibility)", "easy to access" and "empowerment". Sometime due to organizational reasons additional links and authority is provided to those who are higher in hierarchy. Every possible attempt should be made to minimize so that all the employees should be at par.

For demographic variable "functional area" there is significant difference in attribute "communication" and in case of demographic variable "experience" there is significant difference in attribute "transparency". For demographic variable "age" there is significant difference in attribute "role clarity".

After analysis only five attribute or independent variables (Empowers personnel, Decision support system, Reduces dependence, Role clarity, 24*7 – flexibility) fits in regression model and shows a significant cause and effect relationship but surprisingly independent variables like Easy to use, Useful to use Easy to access, Improves transparency, and Internal

communication were omitted as per regression analysis. These variables were not good predictor for dependent variable increase in satisfaction level. It is obvious that each attribute of e-HRM has not same impact. Out of ten attributes five have significant impact on internal stakeholder's satisfaction. Therefore it is recommended to architects of e-HRM, while formulating the framework of e-HRM and developing hardware and software, these attributes should not only be inculcated but also there should be some special provisions to enhance these. Independent variable which has been omitted in the model may be due to some lacunae in delivery which has got to be verified and accordingly corrected. Some time due to faulty selection of software, hardware and lack of training to end user only aggravates the situation. Organizations should take periodic review and feedback from end user and incorporate the suggestions in the system.

Managerial Implications

It is evident from the results, e-HRM has significant impact on internal stakeholder satisfaction and there is always chance of further increase in availing e- HRM services in digital platform and organization may further dehumanize the HR function and there will see change in thinking of line managers regarding HR department. HR function s likely to be more process, IT oriented and lacking human touch, posing a big challenge for HR as a function. HR managers will show more willingness in acquiring hard IT skill rather than gaining soft man management skill. Sometime to safeguard their interest and presence, HR managers may put hindrance in digitization of HRM function. Further all the HR issues cannot be mechanized and has to be resolved with case to case merit where HR managers have to take a leaf out of their cap and look beyond electronic solutions.

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ANNEXTURE-1

RESEARCH INSTRUMENT (QUESTIONNAIRE)

Questionnaire Survey on

IMPACT OF E-HRM: A STUDY IN SELECT INDIAN ORGANIZATIONS

I am a research scholar (Pursuing Ph.D) at Lovely Faculty of Business and Arts, School of Business Administration, Lovely Professional University, Phagwara, Punjab. This survey is a part of my academic research that examines the impact of **electronic human resource management** (e-HRM) on Indian organizations. In simple term impact of information and communication technology (ICT) on human resource management (HRM) function which affects organization's outcomes. The study will help human resource management (HRM) function to serve organization effectively and efficiently. Please read carefully all the questions before responding and follow the instruction given for each part. Your response will be kept confidential, anonymous and its use will be limited to this study.

Thanks for cooperation & participation.

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Section-1

For multiple choices, put a tick mark (√) on most suitable option.

1. Details of Respondent

1.01 Name of the organization :			
1.02 Address of the organisation:			
1.03 Qualification	**Matric/ ITI (10)----------1 Intermediate/ Diploma(10+2)-------- 2** **Graduate/Degree-------3 Postgraduate----------4** **Others----------5**		
1.04 Position:	**Operative(Junior)----------1 Manager (executive)----------3** **Supervisor(Middle)----------2 Others----------4**		
1.05Functional area:	**Marketing------1 Human resource----------2 Information technology----------3** **Finance---------4 Production/ Operations ----------5 Others----------6**		
1.06 Are you a trade union official?	**Yes----------1 No----------2**		
1.07 Experience in present organization:	**1-5 yrs ----------1 5-10 yrs ----------2 10-15 yrs ----------3** **15- 20 yrs ----------4 20 yrs & above----------5**		
1.08 Gender:	**Male.....1** **Female.....2**	**1.09 Age:**	**20-30 yrs.....1 30-40 yrs .....2** **40-50 yrs.....3 50-60 yrs .....4** **60 yrs & above.....5**

	Section-2 ***E-HRM INSTRUMENTS/ TOOLS*** ***This section of questionnaire deals with different e-HRM Tools/ Instruments in practice in various organizations. E-HRM tools provide a variety of automated HR activities that enhance the HR function with flexibility and ease of use. For better understanding e-HRM Tools/ Instruments are briefly explained. Kindly put a tick mark (√) on most suitable option.***						
S. No	***Response rating scale-*** **Not at all-1 Very little -2 To some extent-3 To great extent-4 Very much-5**	1	2	3	4	5	
2.01	To what extent Interactive Voice Response (IVR) is used as an instrument for performing HR activities in your organization?						

	(***Interactive Voice Response (IVR) Systems***- IVR allows employees to get work-related information from company's computer system via a telephone keypad or by use of voice)					
2.02	To what extent HR Intranet is used as an instrument for performing HR activities in your organization? ***(HR Intranet Applications (HRIA)*** - Private computer network that provides employees with direct access to HR-related information and link to perform routine task)					
2.03	To what extent Employee / Manager Self Service (ESS/ MSS) is used as an instrument for performing HR activities in your organization? (***Employee / Manager Self-service (ESS/ MSS) HR Applications*** - Software-supported set of HR transactions that can be performed without direct involvement of HR staff)					
2.04	To what extent HR Extranet is used as an instrument for performing HR activities in your organization? (***HR Extranet Applications (HREA***) - Private computer network that links the information system of client-firms to external vendors delivering co-sourced or outsourced HR service.)					
2.05	To what extent HR Portal is used as an instrument for performing HR activities in your organization? (***HR Portal Applications (HRPA***) - Website interface that offers a personalized unified access point to all information sources, tools, and systems individual needs to effectively consume or deliver HR services)					
2.06	To what extent HR Functional Application (HRFA) software are used as an instrument for performing HR activities in your organization. (***HR Functional Applications (HRFA)*** – Specialized or separate HR software for every HRM functions.)					
2.07	To what extent Integrated HRM Suite Applications (ISA) software is used as an instrument for performing HR activities in your organization? (***Integrated HR Software Suite Applications (ISA)*** – Multiple HR software applications bundled together as a package)					

	Section-3 ***STAKEHOLDER'S SATISFACTION*** This section of questionnaire deals with, levels to which e-HRM satisfy all internal stakeholder of the organization by its service delivery. Kindly put a tick mark (√) on most suitable option.					
S. No	***Response rating scale-*** **Not at all-1** **Very little -2** **To some extent-3** **To great extent-4** **Very much-5**	1	2	3	4	5
3.01	To what extent do you consider e-HRM is easy to use?					
3.02	To what extent do you consider e-HRM is useful to use?					

3.03	To what extent do you consider e-HRM supports 24*7 (flexibility) service deliveries?					
3.04	To what extent do you consider e-HRM is easy to access?					
3.05	To what extent do you consider e-HRM empowers personnel?					
3.06	To what extent do you consider e-HRM improves transparency?					
3.07	To what extent do you consider e-HRM facilitates role clarity?					
3.08	To what extent do you consider e-HRM improves internal communication?					
3.09	To what extent do you consider e-HRM reduces dependence on HR professional?					
3.10	To what extent do you consider e-HRM acts as decision support system (DSS) in taking timelier and better decision?					
3.11	To what extent e-HRM increases satisfaction as an employee.					

	Section-4 ***FORM / LEVEL OF E-HRM*** ***This section of questionnaire deals with present level/form of e-HRM prevalent in your organization. Three identified level/form of e-HRM are operational (Transactional), relational (traditional) and transformational. For the operational type of e-HRM, HRM activities that traditionally offered face-to-face, now offered through internet. (e.g. salary, time office, personal data administration etc). For relational e-HRM, most of HRM functions have a support of internet technology rather using pen and paper. This involves automation of transactions (e.g. recruitment, training, appraisal etc). Transformational e-HRM creates a change-ready workforce through an integrated set of web-based tools that enables the workforce to develop in line with the company's strategic choices. (e.g. knowledge management, competence management). Kindly put a tick mark (√) on most suitable option***					
S. No	***Response rating scale-*** **Not at all-1** **Very little -2** **To some extent-3** **To great extent-4** **Very much-5**	1	2	3	4	5
4.01	To what extent e-HRM supports HR activities in administration area i.e. salary, personal data administration					
4.02	To what extent information technology supports time and labor management function in your organization?					
4.03	To what extent HR services earlier offered face-to-face now offered through information technology?					
4.04	To what extent e-HRM supports publishing of HR information?					
4.05	To what extent HR function has web presence?					

4.06	To what extent e-HRM performs transactional HR function in your organization?					
4.07	To what extent information technology supports human resource planning (HRP) function in your organization?					
4.08	To what extent information technology supports job design and analysis function in your organization?					
4.09	To what extent information technology supports recruitment function in your organization?					
4.10	To what extent information technology supports selection function in your organization?					
4.11	To what extent information technology supports training and development function in your organization?					
4.12	To what extent information technology supports performance appraisal function in your organization?					
4.13	To what extent information technology supports reward and compensation function in your organization?					
4.14	To what extent HR services earlier offered by pen and paper now offered through information technology?					
4.15	To what extent e-HRM supports automation of HR transactions in your organization?					
4.16	To what extent e-HRM performs traditional HR function?					
4.17	To what extent HR services offered through integrated set of web based tools (SAP, ERP) in your organization?					
4.18	To what extent e-HRM supports mutation of HR transactions?					
4.19	To what extent HR functions are delivered electronically in your organization?					
4.20	To what extent e-HRM plays a role in strategic HR task in your organization?					
4.21	To what extent e-HRM acts as centres of expertise?					

	Section-5 ***STRATEGIC CAPABILITY*** ***This section of questionnaire deals with the level to which e-HRM facilitates HR function integration (alignment) with business strategy. Kindly put a tick mark (√) on most suitable option.***					
S. No	***Response rating scale-*** **Not at all-1** **Very little -2** **To some extent-3** **To great extent-4** **Very much-5**	1	2	3	4	5
5.01	To what extent e-HRM standardizes its service delivery to different					

	departments, business units in your organization?					
5.02	To what extent e-HRM reduces administrative burden of HR professional in your organization?					
5.03	To what extent e-HRM improves the employer brand of your organization?					
5.04	To what extent e-HRM creates ready to change workforce?					
5.05	To what extent e-HRM increases competence of employee of your organization?					
5.06	To what extent e-HRM supports knowledge management in your organization?					
5.07	To what extent e-HRM aligns HR policies/ practices with business strategy of your organization?					
5.08	To what extent e-HRM increases strategic capability (competitive edge) of your organization.					

	Section-6 ***FINANCIAL CONTRIBUTION*** ***This section of questionnaire deals with the level to which e-HRM contributes to increase the profit of the organization. Kindly put a tick mark (√) on most suitable option.***					
S. No	***Response rating scale-*** **Not at all-1 Very little -2 To some extent-3 To great extent-4 Very much-5**	1	2	3	4	5
6.01	To what extent e-HRM reduces HR professional's requirement in your organization?					
6.02	To what extent e-HRM reduces HR outsourcing cost of your organization?					
6.03	To what extent e-HRM reduces stationery material cost in your organization?					
6.04	To what extent e-HRM reduces administrative and operational cost of your organization?					
6.05	To what extent e-HRM increases output of HR function in your organization?					
6.06	To what extent e-HRM supports quality improvement saving in your organization?					
6.07	To what extent e-HRM reduces duplication of work (entries)?					
6.08	To what extent e-HRM reduces cycle time of HR functions in your organization?					
6.09	To what extent e-HRM contributes financially to your organization.					

ANNEXTURE-2

ii- <u>PUBLISHED PAPERS</u>

S.No.	Journal/ conference	Title of paper	Impact factor	ISSN/ ISBN/ Year
1	International Journal of Business Management and invention	E-HRM tools: An empirical study in select Indian organizations.	1.482	ONLINE-ISSN 2219-8028, Print- ISSN 2219 – 801X
2	Prabandhan: Indian Journal of Management	E-HRM Attributes and Internal Stakeholder's Satisfaction: A Quantitative Study in Select Indian Organizations	6.3	ISSN 0975-2854 Vol-7-issue-2 FEB-2014
3	International Journal of Exclusive Management Research	Evaluation of Level of e- HRM in Indian Organizations	5.7	ONLINE-ISSN 2249-258, Print- ISSN 2249 – 8672 Vol-4-issue-1 JAN-2014
4	Conference on Innovative Practices in Information Technology and Operations Management	E-HRM as Financial Contributor: An Empirical Study in Indian Organizations		ISBN:978-81-906991-9-7 Apeejay School of management, New Delhi JAN-2014

E-HRM as Financial Contributor: An Empirical Study in Indian Organizations

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ABSTRACT

HR function in almost all the organization is supposed to be the cost centre rather than the revenue centre and in most cases considered as the administrative overhead but there is a general perception that e-HRM is resource saving tool, if implemented and used properly will save time and money by streamlining the work and cutting down the time taken to perform different functions. E-HRM by its nature cannot generate revenue so cannot contribute in top line growth but through cost reduction or avoidance can contribute significantly in bottom line growth. E- HRM can provide efficient, reliable, easy-to-use, easily accessible, cost effective, flexible services to its stakeholders, above all a step towards paperless office and making it easier to administer HRM function to a broad group of different users.

This research paper in its endeavor examines the role of e-HRM as financial contributor in Indian organization, response has been sought after from employees of eight organizations using structured questionnaire as instrument. One sample t test has been used as instrument to measure presence of level of different attributes of financial contribution and regression analysis has been used to examine e-HRM financial contribution attributes having significant impact on organizations finance. To examine the difference in level of attributes of financial contribution in context to private vis-a-vis public and manufacturing vis-a-vis services, paired sample test has been used as a statistical tool. The study reveals that all attributes of financial contribution are not above the test value and there exist a difference in level for some attributes of financial contribution in context to private vis-a-vis public and manufacturing vis-a-vis services. Out of eight attributes of financial contribution only five fits in regression model.

KEYWORDS - Attribute, e-HRM**,** Financial**,** Stakeholder, Regression, t Test**,**

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INTRODUCTION

In present business scenario organizations are facing multipronged competition especially in terms of financial matters. Success of any organization is basically measured on top line and bottom line growth and at the same time forced to provide goods and services at lowest possible price to remain competitive and some time to have an edge. In this piquant situation HR function cannot remain silent spectator and have to deliver financially. Fletcher (2005) states that for HR to survive in this brave new world it needs to "possess a technology" and creation in some organizations of chief talent officers on talent acquisition and retention. These, like some replacements for 'traditional' HR executives may have no direct experience of human resource management at all. Instead they may have "led a line of business and have had profit and loss (P&L) responsibility, understand what it means to be accountable for delivering business results." A function can contribute financially either by revenue generation or by cost reduction / avoidance. In most of the organization by nature revenue generation is limited to marketing, operations or finance. The only choice left to HR function to contribute financially is cost reduction or avoidance. Cost reduction by e-HRM can be done by HR headcount reduction, stationery material cost reduction, and outsourcing cost reduction, reduction in HR transaction cost and reduction in cycle times of HR activities.

As per Steve foster (2009) cost reduction is a key lever in any competitive strategy and even an organization that is pursuing a differentiation or innovation strategy will also seek to control and manage its costs. Cost reduction is the most tangible type of benefit derived from e-HRM because it refers to real money that flows directly to the 'bottom-line'. It typically forms the basis for the business case and is the most tangible form of benefit, mostly appearing as a direct financial contribution. According to Lengnick-Hall & Moritz (2003), for the HR function, e-HRM has the potential to affect both efficiency and effectiveness. Efficiency can be affected by reducing cycle times for processing paperwork, increasing data accuracy, and reducing HR staff. Effectiveness can be affected by improving the capabilities of both managers and employees to make better, timelier decisions

E-HRM increases the output of HR professional as they are not supposed do overlapping pen and paper based job and in most of cases regular, routine, monotonous work can be done by employee through self service (ESS). HR professionals are supposed to do core or strategic HR activity and be a facilitator to different stakeholders like employee, consultants, legal experts and regulators who consume these services. In this way output of HR professionals increases as they have spare time to see out of the

box and be strategic partner of the business. Foster, Hawking and Stein (2004) describe that the application of the internet to the human resource function (e-HR) combines two elements: one is the use of electronic media while the other is the active participation of employees in the process. These two elements drive the technology that helps organizations lower administration costs improve employee communication and satisfaction, provide real-time access to information while at the same time reducing processing time.

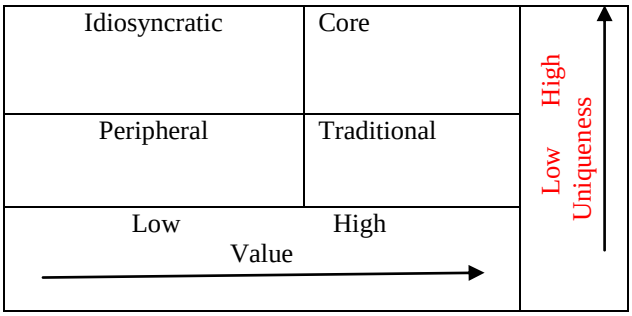
E-HRM provides HR services on digital platform and use of interactive voice response (IVR), e-mail, internet, intranet, extranet, ESS, web portal and other tools resulting in reduction in postage, paper and stationery material requirement and manpower required to carry the file from one table to other. With reduction in paper consumption, storage space and cupboards required to store old files and records minimized as these files and records are stored in computer hardware. As per Steve foster (2009) other cost savings might arise as a result of displacing existing technologies with resultant savings in licensing and support costs, or switching to electronic rather than conventional media. For example, the introduction of technology means that more documents (offer letters, interview invitations etc) can be sent on-line, with a reduced need for stationery, postage, facilities and other day-to-day costs. Recruitment processes, in particular are often highly reliant on the mail system, whereas e-recruitment eliminates this need made large savings simply by scrapping its physical applicant packs.

E-HRM facilitates automation of HR transactions resulting in mutation of entries, reduction in duplication work, less chances of human error hence quality improvement saving. Lot of activities which were earlier out sourced, now e-HRM empower employee and provide the platform of self service resulting in reduction in outsourcing cost. E-HRM streamlines the flow of task and reduces backtracking and task can be performed in assembly line production system resulting in reduction in unnecessary delay and cycle time. As per Marler (2009), organizational goals for e-HRM investments include cost reduction through streamlining HRM operations, improved effectiveness through providing better delivery of HRM services. Different e-HRM instruments and tools are being adopted by organization to facilitate the organization in achieving financial as well as stakeholder's holder goal.

LITERATURE REVIEW

According to Dessler (2004), technological applications play an increasingly important role in HR. Technology improves HR functioning in four main ways: self service, call centers, productivity improvement and outsourcing. Lepak & Snell (1998) present a model, which supports organizations to map their portfolio of HR activities into an overall architecture of virtual HR. The HR activities are divided over the four quadrants according their value and uniqueness for specific organization and every single HR activity can be mapped in one of the four quadrants. Idiosyncratic activities are most suitable for outsourcing as it is low in uniqueness, infrequent use, more standardized and its value also low. Core HR activities are expected to be performed by the HR professionals. Traditional and peripheral activities with a low uniqueness are devolved to managers and employees and the most suitable to be provided on electronic platform. As per Steve foster (2009)**,** more efficient processes also allow organizations to perform more work internally without the addition of more staff, or by transferring work back from expensive external contractors and agencies. Other costs in this category include lower IT infrastructure costs, given that many organizations are using older technology that does not permit web enabled self service, as well as lower licensing costs and consolidation of multiple applications. Others identified that there might be savings arising from reduced reliance on third party providers such as recruitment agencies, where e-HRM makes it possible to perform the work more cost effectively internally.

Table -1 Value and uniqueness of HR activities



Source- Lepak, D. & Snell, S. (1998). "Virtual HR: Strategic human resource management in the 21st century." *Human Resource Management Review*, 8(3), pp. 215−234.

According to Verma and Gopal (2010) people are still not very clear about what exactly is HR outsourcing all about, and issues like quality and trust needs to be addressed properly. Experts say the basic reasons hampering the growth of HR outsourcing in India are confidentiality and cost factors. Moreover, the fear of losing jobs, losing control over confidential data, ethics and quality

of outsourcing vendors, security breaches and overall confidence in the vendors deters many organizations. The biggest reason of HR outsourcing industry in India is on the back foot, is the government and the industry's failure to tackle issues like data security and data privacy. This is where Indian HR outsourcing companies face a major handicap. The Indian government is still grappling with drafting a data protection law designed to quell growing privacy concerns.

As per Foster (2009), cost reduction is therefore a critical driver in most e-HRM projects. Opportunity for cost reduction arises because any resource devoted to the delivery of transactional services, such as the manual entry of data, maintaining employee records, processing requests, filing and dealing with enquiries is expensive and organizations will seek to reduce these types of cost at every opportunity. It is obvious that there is clear pressure within organizations to reduce HR operational cost. According to Prasad (2003) large organizations generally install e-HR because it enables them to collect, store, process and manipulate large amount of data inputs, reduce costs of maintaining human resource data and provide accurate information about human resources anytime and anywhere. Walker (2001) stated, many systems have been implemented by cutting HR staff, outsourcing and imposing new technology. The committee Van Rijn (2001) concluded that reducing costs was not necessary because money, in their opinion, was not a real problem. The problem was the shortage of qualified employees on the labor market and therefore the public sector risked not being able to provide the services demanded. Therefore organizations should work more efficient to be able to more with less (more work with fewer employees) and in this way guarantee service provision. According to Wiscombe (2001), there is general consensus that HR technology lowers HR operating costs although estimates as to the potential for operational savings vary, from a reduction in administrative staff of up to 40% and reductions in transaction costs of 50%. According to CedarCrestone (2009), US evidence suggests that a 20-25% reduction in HR costs is possible through e-HRM.
As per HR Focus (2002), some statistics used to justify the investments made in e-HRM technologies are for example the average cost of an HR transaction, number of inquiries to the service centre, cycle times, headcount changes in the HR department and financial metrics such as return on investment (ROI) and the duration of the payback period, but also measures of employee satisfaction. Lengnick-Hall & Moritz (2003) stated the core goal of e-HRM is to assist the organization and human resource professionals to get non-strategic, transactional HR tasks done quicker, more cost-effectively and with less dependence on HR staff. Foster, Hawking and Stein (2004) describe that the application of the internet to the Human Resource function (e-HR) combines two elements; one is the use of electronic media while the other is the active participation of employees in the process. These two elements drive the technology that helps organizations lower administration costs improve employee communication and satisfaction, provide real-time access to information while at the same time reducing processing time. As per Mittal and Kumar (2006), earlier the application software were developed and maintained from office to office (decentralized) and there was no integration between the various applications. As a result duplicate entries were made in various applications at user end as well as for consolidation and compilation. The implementation of e-HRM has made duplicate efforts almost zero, as the software is maintained at one place, entry of information is done at the point of generation of information and automatic consolidation and integration of data is taking place. It has minimized the data mistakes as the data entry is being done by the person who is directly responsible for source data generation. As per Lengnick-Hall & Moritz (2003) besides this, the automation and provision of HR activities enables streamlining of the HR processes which can lead to reduced cycle times of the HR processes. Service centre initiatives permit the organization to serve up to 11% more employees with an average 60% cycle time reduction across HR processes. The Aberdeen Group (2009) found that best in class organizations decreased the number of manual HR transactions by 11% and shortened HR service delivery cycle times by 5%.

As per Foster(2009), for many organizations, introducing e-HRM represents the first stage of HR transformation, which is about efficiency, effectiveness and removing excess cost as well as improving HR service delivery. Walker (2001), states that if HR technology is to be considered successful, it must change the work performed by the human resources personnel by dramatically improving their level of service, allowing more time for work of higher value and reducing their costs. Aravind & Paramashivaiah (2006), emphasize that it is critical for every organization to resort to means that offer quality recruitment solutions at competitive costs. This is where the realm of e-recruitment starts. Gupta and Chhabra (2004) assert that the twin objectives of any human resource information systems can be understood as operational efficiency and effective managerial decision making. In the year 2002 a survey was conducted by Watson Wyatt to research the impact of e-HRM technologies. Cost reduction was found to be a top metric in formal business cases for the adoption of the e-HRM technology. It is important to act responsible with resources of the organizations; save cost whenever possible and work as efficient as possible. It is therefore expected that the adoption of e-HRM technologies is driven by the need of cost reduction and efficiency improvements of the HR system. According to Lengnick-Hall & Moritz (2003), a typical argument for the adoption of e-HRM technologies is use of e-HRM can reduce process and administration costs. Fewer HR professionals are needed because e-HRM eliminates the "HR middleman". Furthermore, e-HRM speeds up transaction processing, reduces information errors, and improves the tracking and control of HR actions. Thus e-HRM improves service delivery. As per Cober (2004), for recruitment, organizations are utilizing their own web sites even better because of the rising costs of web advertising and decreasing ease of finding qualified applicants.

The Aberdeen Group (2009) found that best in class organizations decreased the number of manual HR transactions by 11% and shortened HR service delivery cycle times by 5%. One important HR measure of administrative efficiency, apart from cost, is the number of HR people required to deliver the service relative to the number of employees supported – most large organizations strive for a ratio better than 1:100, that is, one HR person serving every 100 employees. Evidence suggests that the amount of time spent on operational (i.e. administrative) work is reducing as a result of past process improvement efforts - it has now fallen as a proportion of overall workload from 50% in 2003 to 36% (2007), achieved through technology-enabled HR delivery models such as shared services and outsourcing.

According to Jessup and Valacich (2004) various kinds of information systems and the innovative techniques are being used by organizations for their benefit. The system has provided better corporate governance and employees have become aware that their movement, overtime, unauthorized absence, tours, expenses on medical, transport, telephone etc. is being monitored. As per Panayotopoulou (2007), this type of employee and manager self service leads to higher accuracy and data quality. Adamson, & Zampetti, (2001). stated, through the implementation and subsequent use of employee and manager self service applications, e-HRM has brought about considerable improvement in the updating of employee information, the posting of job specifications, changes in policy and procedure, training and staff changes. As per JD Edwards Enterprise One Manager Self Service (2007), transforms managerial activities from manual, paper-based processes with multiple levels of approval to a Web-enabled, self-service system, it allows both managers and employees to stay focused on what matters most: improving performance.
.As per Hawking and Stein (2004) this technology holds out the promise of challenging the past role of HR as one of payroll processing and manual administrative process to one where efficiencies cost can be gained, enabling more time and energy to be devoted to strategic business issues. As per Jd Edwards Enterprise One Manager self service (2007), delegation of authority at the appropriate level and time, the time saved can be translated directly into cost savings for the organization. By empowering managers to perform business transactions themselves, human resources staff time can be saved and, just as importantly, your managers can be more productive because they have the real-time information they need at their fingertips, which allows them to manage their teams more effectively. E-HRM studies of researchers like Hawking (2004), Ruel (2004), Strohmeier, (2007), reveals the idea that e-HRM increases productivity through decreased requirements for HR staff, increased speed of process due to automation as well as cost reduction. Towers-Perrin (2002) notes how the use of e-HRM is creating opportunities for HR shared services delivery centers, which in turn lead to new economies of scale, including better greater efficiencies for HR operations. According to Aberdeen Group (2008) Indeed, for most organizations investing in e-HRM, it is unlikely that there will be financial funding for an e-HRM project without quantified operational benefits; economic pressures and the need for tight cost control drive 76% of investments in HR systems, although fewer than one third of organizations describe the internal HR function as 'very cost effective'.
According to Mittal & Kumar (2006), many of the information sent earlier to the employees through paper is made available online which has reduced lot of paper work including pre-printed stationery etc. All the application forms have been provided online wherein employee can used them for submitting their applications. With the implementation of workflow applications papers have been replaced with electronic documents. As mentioned earlier, it is very difficult to find out the direct cost and benefit from the software. So is the case with return on investment (ROI). According to Adamson and Zampetti (2001), HR self-service, entails the use of interactive technology by employees and managers to obtain information, conduct transactions and essentially short-cut processes that previously required multiple steps, paperwork, and the involvement of HR staffers. According to Mittal, & Kumar (2006), the desired data is being replicated online between various information centers from time to time. As a result the consolidated information is available to the management for effective decision making instantaneously and they need not to wait for collection, compilation and consolidation of information, which used to take lot of time earlier. This has resulted in minimizing the lead time and saving of resources both in terms of manpower, paper movement and cost on communication and operation**.**

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RESEARCH OBJECTIVE AND METHODOLOGY

The literature review reveals very little empirical study exclusively on e-HRM contributing financially. The limited research that has been undertaken is mostly based on western countries not from emerging countries like India which is all together different from western countries, so there is a possibility of different result. The present research in its endeavor identifies research gap and formulates objectives.

- To assess the present level of attributes of financial contribution
- To analyse the difference in level of attributes of financial contribution based on public vs private organisation.
- To analyse the difference in level of attributes of financial contribution based on manufacturing vs services organization.
- To examine financial contribution attributes having significant impact on finances of Indian organizations.

Research Hypothesis

H0 A)-It is hypothesized that the present level of e-HRM attributes of financial contribution is at mean (test) value.

H0 B) It is hypothesized that difference in mean value of attributes of financial contribution between public and private organization is zero.

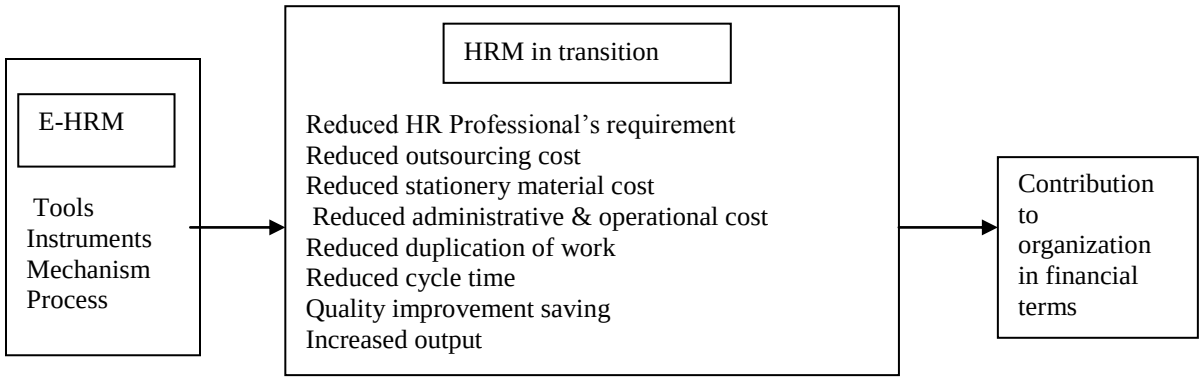
H0 C) It is hypothesized that difference in mean value of attributes of financial contribution between manufacturing vs services organization is zero.

H0 D) It is hypothesized that financial contribution attributes have not significant impact on finances of Indian organisation.

Research Model

Research model developed on literature survey envisage that HRM function delivered in electronic form supported by web based, wireless, multimedia, software and hardware tools and instruments generates mechanism and process resulting in e-HRM attributes or power to contribute financially. From literature review total eight attributes has been identified and model has been portrayed taking financial contribution as a dependent variable.

Figure- 1 E-HRM financial contribution model (Portrayed)



Source – literature review by scholar

Sample unit and Sample Size: The research comprises of eight Indian organizations selected as sample organizations and it consists of public and private organizations both from manufacturing /mining sector and services sector in equal numbers.

Table- 2 Nature of business

Sample organization	Manufacturing/Mining	Services
Public	1.Power generator 2.Mining	3. Bank 4. Insurance
Private	5. Automobile manufacturer 6. Tech-manufacturing company	7. Bank 8. Software developer

Source –Formulated by scholar

Table-2 depicts the nature of business of sample organizations. These blue chip organizations are having sound HR practices and market leader in that particular segment. Since primary data is being used for this study, so identity of the organizations has been not disclosed**.** Target respondents are managers of these organizations. The sample size of the research consists of 242 managers/ executive who can assess the impact of e-HRM in financial terms.

Data Collection: Structured questionnaire with 5-point response scale (not at all, very little, to some extent, to great extent, very much) has been used as a research instrument. The statement of questionnaire is as follows.

- To what extent e-HRM reduces HR professional's requirement in your organization?
- To what extent e-HRM reduces HR outsourcing cost of your organization?

- To what extent e-HRM reduces stationery material cost in your organization?
- To what extent e-HRM reduces administrative and operational cost of your organization?
- To what extent e-HRM increases output of HR function in your organization?
- To what extent e-HRM supports quality improvement saving in your organization?
- To what extent e-HRM reduces duplication of work (entries)?
- To what extent e-HRM reduces cycle time of HR functions in your organization?
- To what extent e-HRM contributes financially to your organization?

These questionnaires were sent on line to the employees and in some cases questionnaire in hard copy was also provided. Out of 120 questionnaire send online, 24 respondents filled the questionnaire and submitted i.e. response rate of 20% and out of 122 questionnaire provided to respondents in hard copy format 60 responses were collected i.e. response rate of 49.1% hence in total 84 responses out of a sample size of 242 i.e. overall response rate of 34.7%. First page of survey dealt with the introduction, purpose of the study, assurance of confidentiality and anonymity. Second page and onwards dealt with profile of respondents and actual survey.

Data analysis and interpretation: The statistical techniques were applied using the Statistical Package for the Social Sciences (SPSS) 16.0. One sample t-test had been used to test the hypothesis A, Paired sample t-test has been used to test hypothesis B and C, regression analysis has been used to develop a model and test hypothesis D.

TABLE- 3 One-Sample t Test of attributes of Financial Contribution

Attributes	Test Value = 3.5	Degree of freedom = 83	
	Mean	t	Sig. (2-tailed)
Reduce HR	3.6310	1.064	.290
Outsourcing cost	3.8214	2.579	.012*
Stationery material	3.9405	4.044	.000*
Administrative & operational	3.9286	3.781	.000*
output of HR	3.9524	4.458	.000*
Improvement saving	3.9524	4.078	.000*
Duplication	4.1190	6.629	.000*
Cycle time	4.0238	5.019	.000*
Financial contribution	4.0952	6.250	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t +1.645, one tailed test, df 83, sig 5%)

According to table- 3 for the attribute "HR professional" significance level is 0.145 (0.29/2- one tailed test) which is much above the assumed significance level of 0.05 hence null hypothesis is accepted, shows there is no significant difference between the test value and the observed means value but for remaining attributes of financial contribution e-HRM has low significance values of less than 0.05 (0.012 for the parameter "outsourcing cost" and for other attributes significance level 0 .00) hence null hypothesis rejected, indicates that there is a significant difference between the test value and the observed means. With Positive t value it can be concluded that e-HRM attributes of financial contribution is more than the test value.

Financial contribution (public vis-à-vis private)-To test the hypothesis "It is hypothesized that difference in mean value of attributes of financial contribution between public and private organization is zero" (hypothesis - B), paired sample T test has been used as a statistical tool.

TABLE-4 Paired Sample Test (public vis-à-vis private)

Pair	Attributes	Mean	Std. Deviation	t	Sig. (2-tailed)
1	HR Professional	-.60976	1.35790	-2.875	.006*
2	Outsourcing cost	-.41463	1.62751	-1.631	.111
3	Stationery material	-.36585	1.35566	-1.728	.092

4	Administrative & operational	-.17073	1.44745	-.755	.455
5	output of HR	.00000	1.58114	.000	1.000
6	Improvement saving	-.14634	1.13051	-.829	.412
7	Duplication	-.29268	1.30851	-1.432	.160
8	Cycle time	-.34146	1.37131	-1.594	.119
9	Financial contribution	-.14634	1.29540	-.723	.474

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t 1.96 two tailed test, df 41, sig 5%)

According to table 4 for the attribute "HR professional" significance level is 0.006 which is much below the assumed significance level of 0.05 hence null hypothesis is rejected, shows there is significant difference in mean values between public and private organizations for this particular attribute , but for remaining attributes of financial contribution e-HRM has high significance values of more than 0.05, hence null hypothesis accepted , indicates that there is no significant difference in the mean values for these attributes so null hypothesis accepted. Overall it can be concluded that null hypothesis (H0) B is partially rejected.

Financial contribution (manufacturing vis-à-vis services) -To test the hypothesis "It is hypothesized that difference in mean value of attributes of financial contribution between manufacturing/ mining and services is zero" (hypothesis - C), paired sample T test has been used as a statistical tool.

TABLE- 5 Paired Sample Test (manufacturing vis-à-vis service)

Pair	attributes	Mean	Std. Deviation	t	Sig. (2-tailed)
1	HR Professional	-.50000	1.50287	-1.822	.079
2	Outsourcing cost	.00000	1.59741	.000	1.000
3	Stationery material	-.43333	1.13512	-2.091	.045*
4	Administrative & operational	-.53333	1.45586	-1.946	.054
5	output of HR	-.33333	1.34762	-1.355	.186
6	Improvement saving	-.23333	1.40647	-.909	.371
7	Duplication	-.16667	1.31525	-.694	.493
8	Cycle time	-.26667	1.25762	-1.161	.255
9	Financial contribution	-.36667	1.12903	-1.779	.086

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t 1.96 two tailed test, df 41, sig 5%)

According to table- 5 for the attribute "stationery material" significance level is 0.045 which is below the assumed significance level of 0.05 hence null hypothesis is rejected, shows there is significant difference in mean values between manufacturing and services organizations for this particular attribute , but for remaining attributes of financial contribution e-HRM has high significance values of more than 0.05, hence null hypothesis accepted , indicates that there is no significant difference in the mean values for these attributes so null hypothesis is accepted. Overall it can be concluded that null hypothesis-B is partially rejected for the attributes of financial contribution taking manufacturing vis-à-vis service as paired sample test of comparison.

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TABLE -6 Regression Coefficients of attributes

	Unstandardized Coefficients		t	Sig.
	B	Beta		
(Constant)	-.037		-.191	.849
HR professional	-.047	-.061	-.982	.329
outsourcing cost	.044	.057	1.055	.295
stationery material	-.053	-.061	-.678	.500
Administrative & operational	.129	.147	1.973	.049*
Increased output of HR	.300	.320	4.266	.000*
Quality improvement	-.133	-.143	-1.9817	.048*
Duplication	.325	.318	5.510	.000*
cycle time	.453	.496	6.561	.000*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (Table value of t 1.96, df 83, sig 5%)
Dependent Variable: financial contribution

Table – 6 depicts attributes "HR professional", "outsourcing cost", "stationery material" is not statistically significant and doesn't fit in regression model. Based on table the estimated model of attributes having significant impact on financial contribution is -0.37+ .453 (cycle time) +.325 (Duplication) + .300 (Increased output of HR) + .129 administrative & operational -.133 (Quality improvement). Constant is not statistically significant as its value is 0.849 much above .05. It can be said that five attributes have significant impact on financial contribution, hence null hypothesis (H0) D is partially rejected.

CONCLUSION AND RECOMMENDATIONS

Result shows that present level of attributes of financial contribution is above test value; hence it becomes evident that all the attributes of financial contribution is present except attribute "HR professional". This gives a clear indication that in Indian organization implementation of e-HRM is not for HR professional's head count reduction as mentioned in most of the literature. It is obvious from the study that level of e-HRM attributes of financial contribution is not significantly different in public and private organizations except for the attribute "HR professional" where there is significant difference; Similarly the level of e-HRM attributes of financial contribution is not significantly different in manufacturing and services organizations except for the attributes "stationery material".

Result indicate only five attributes or independent variables (Cycle time, Duplication, Increased output, Administrative & operational , Quality improvement) fits in regression model and shows a significant cause and effect relationship but surprisingly independent variables like "HR professional", "outsourcing cost", "stationery material" were omitted. These variables were not good predictor for dependent variable financial contribution. It is obvious that each attribute has not same impact. Out of eight parameters five have significant impact on financial contribution. Out of five attributes having significant impact on financial contribution "Quality improvement" is showing a negative coefficient, reflecting quality improvement saving has negative impact on finances of the organization.

It is recommended to architects of e-HRM, while formulating the framework of e-HRM and developing hardware and software due attention should be given to the attributes of financial contribution and every effort should be made to make HR function efficient without compromising its effectiveness. Some time due to faulty selection of software, hardware and lack of training to end user doesn't provide the required result and only aggravates the situation. Organizations should also measure the investment cost, return on investment, payback period but in most of cases it is difficult as digitization of HRM function is not a standalone activity and it's very difficult to measure the return in quantitative term or rupees term. Organizations should take periodic review and feedback from end user and incorporate the suggestions in the system.
Literature review reveals HR outsourcing industry in India is not in healthy stage because government and the industry's failure to tackle issues like data security and data privacy. The Indian government should draft a data protection law so that these issues can be resolved.
Present research paves the way of further research which can be based on value for money, payback period, return on investment and many more. Research has some limitation as researcher has selected eight organizations so its result cannot be blindly generalized to all other organizations. Contextual analysis is important before implementing the results. The study is based on non-probability sampling. Participants were selected based on judgmental and convenience sampling techniques. One of the biggest limitation of the study is it has not taken implementation and operating cost in account.

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IMPACT OF E-HRM: A STUDY IN SELECT INDIAN ORGANISATIONS

A

Thesis

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In
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By

Bhagawan Chandra Sinha

Guide
Dr. Mridula Mishra

Lovely Faculty of Business & Arts
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JULY 2015

DECLARATION

I declare that the thesis entitled "Impact of e-HRM: A Study in Select Indian Organizations" has been prepared by me under the guidance of Dr. Mridula Mishra, Professor of Lovely Faculty of Business & Arts, Lovely Professional University. No part of this thesis has formed the basis for the award of any degree or fellowship previously.

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CERTIFICATE

I certify that Mr. Bhagawan Chandra Sinha has prepared his thesis entitled "Impact of e-HRM: A Study in Select Indian Organizations" for the award of PhD degree of the Lovely Professional University, under my guidance. He has carried out the work at the Lovely Faculty of Business & Arts, Lovely Professional University, Phagwara,.

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ABSTRACT

Electronic human resource management (E-HRM) is by and large a intentional initiative by HR function to navigate the organization in the information and communication era by unfettering itself from every day operational, repetitive necessities and to make it more in accord with the decision making, understanding of the employees, preparing change ready workforce, knowledge management, employer brand and center of excellence. Technological changes and advancement is an effective force towards exemplar shift of transactional and traditional HRM function towards digitisation simultaneously can achieve transformational level and aspire to be a strategic partner of business. In initial days use of information and communication technology in human resource function was basically deployed for purposes of improving transactional and traditional HR processes and empowering different stakeholders to access distributed HR services. With passage of time digitization had facilitated transformational changes and towards strategic orientation of HR function but the number of organization having this approach is limited to select few.

E-HRM is an initiative that empowers managers and employees to access HR services in digital platform and not to be dependent on HR executives using pen and paper. Service recipient has the flexibility to access services on anywhere any time in 24*7 mode. This facilitates HR staff to focus less on the operational and more on the strategic elements of HR and allowing organizations to reengineer HR function and be lean and mean as the administrative burden is lightened. It is presumed that, e-HRM provides competency to HRM department to act as a strategic business partner of the enterprise. ICT provides services at lightning speed, rate of HRM transaction, dissemination and compilation is higher than the traditional system. E-HRM reduces barrier of communication, reduces cost, improves flexibility of services, provides a platform of employee participation, an initial step towards paperless office and makes easy to administer HRM function. The spurt of knowledge economy and clubbing of world through network has resulted in integrated global economy and there have been substantial rise in inter and intra organizational networks. These interlinked organizations require mechanism and function that is compatible with requirement of different stakeholders of these organizations, and e-HRM has to play a major role. Taking account of the business perspective, digitization of HR

function is evident, and application of different hardware and software tools are natural so that it can be available at any time in any place, as it enables continuous interaction between the employees and the organization.

The organizations utilizing the appropriate mechanism, process and instruments of e-HRM, can act as a strategic partner and facilitate the organization in achieving vision, mission and corporate objectives. Research finding overseas shows that most organizations in technical sense try to exploit e-HRM fully but in practice its application is limited to operational or relational e- HRM i.e. it is limited to narrow range of functions especially those in administrative management of pay roll, employee record management (operational) or human resource planning, recruitment, selection, training, performance management, compensation (relational), but there is complete dearth of literature which shows application of e-HRM in transformational form or higher level needs of organization. But present requirement is to be helpful in achieving business strategy, contribute financially, and help the organization in improving stakeholder's satisfaction especially internal. HRM function can provide these leverages when HR mechanism, process and services have been digitized and integrated with all other functions like marketing, operations, finance, information technology (IT) of the organization. This will make HR function more proactive not just a service department only concerned with providing services to other functions. To achieve all these fate only application of information and communication technology cannot do wonders but top management and architects of e-HRM should be cautious for its successful implementation, due attention must be paid to the culture of HR department, mechanism and service delivery of HR process, technology adopted, roles and responsibilities of individuals performing HR activities, growth needs, devotion and competencies of the work force. For making it successful HR and IT professional has to support the system at every step.

Research is undertaken to seek answers of problem when there is no empirical evidence of the problem which organization faces. Application of ICT in HR function started long ago in Indian organizations but research in e-HRM has been a new trend. Regardless of marked progress of e-HRM in recent past but due to lack of pertinent empirical study there is complete unawareness about the present level of e-HRM, instruments and tools being used in Indian organizations.

Literature review clearly identifies research problem and research gap related to impact of e-HRM on strategic contribution, financial contribution, stakeholder satisfaction in Indian organizations as there is complete dearth of study in context to these dimensions of e-HRM.This research is exploratory in nature as it tries to gain familiarity with e-HRM in present context and study is somewhat descriptive as data has been compiled from select Indian organisations, after interpretation different conclusions have been extracted. A major intention of this research study is to contribute to the broader research community by generating new knowledge and enhancing existing knowledge base, as well as to develop and validate a questionnaire that could assess impact of e-HRM. Furthermore, the study addresses recent e-HRM practices in Indian organisations, Indian work context and viewpoint by focusing on experience of employees of Indian organisations. This study provides possible managerial implication and raise awareness of possible stumbling blocks of implementation of e-HRM.

While taking e-HRM as a research topic and formulating measurable constructs was a big challenge. The study had utilized non- probability sampling. Eight sample organizations had been selected based on judgment sampling and participants (respondents) were selected based on convenience sampling technique. Compiling information from the select eight organizations had been a challenge as sometime respondents (employees) had been skeptical of motto of the research and fear of breach of service code of conduct. Facing all the hurdles as and when it appeared, a comprehensive research was conducted. To measure different e-HRM attribute, questionnaire was formulated, response sought from operatives, supervisors, and managers of select eight Indian organizations. Factor analysis, one sample t- test, Paired sample t- test, one way ANOVA, and correlation and regression analysis has been used as an statistical tool of measurement and data analysis,

This study has very wide application for business organizations. The study analyses changes in the job profile of HR professionals the impacts of e-HRM on organizational life of employee. Different attributes of e-HEM has been compared private vis a vis pubic, simultaneously comparison has been done manufacturing/ mining vis a vis services. Comparative study has been also made between select organizations taking different attributes of e-HRM one by one. Stakeholder's satisfaction has been also compared with different demographic variables. This

study assesses the impact of e-HRM on employee empowerment, cost, and administrative burden reduction of HR function and to the extent it is easy and useful to use. Research finding shows extent to which e-HRM had been successful in achieving business strategy, financial growth, and internal stake holder's satisfaction in Indian organizations. The study ends with conclusion, recommendation, managerial implications and scope for further research which is likely to be very helpful for different people and institutions as per their need and hope research fulfills the aspiration of industry, academics, and society.

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LIST OF ABBREVIATIONS

Acronym	Full Name
ANOVA	Analysis of Variance
APAC	Asia Pacific
B2C	Business to Commerce
B2E	Business to Employee
BCCL	Bharat Cocking Coal Limited
CIL	Coal India limited
CD	Compact Disc
CMPDI	Central Mine Planning and Design Institute Limited
DF	Degree of Freedom
DSS	Decision Support System
e-Circulars	Electronic Circulars
e-HR	Electronic-Human Resources
EGFSN	Expert Group on Future Skills Needs
e-HRM	Electronic-Human Resource Management
EIS	Executive Information System
e-recruitment	Electronic-Recruitment
ERP	Enterprise Resource Planning
ESS	Employee Self Service
eFEAP	Electronic - Front End Application Package
FMCG	Fast Moving Consumer Goods
HCM	Human Capital Management
HRP	Human Resource Planning
ICT	Information and Communication Technology
IT	Income Tax
IT	Information Technology
IVR	Interactive Voice Response
KM	Knowledge Management
KMO	Kaiser-Meyer- Olkin
HCM	Human Capital Management
HR	Human Resources
HREA	Human Resources Extranet Application
HRFA	Human Resources Functional Application
HRIA	Human Resources Intranet Application
HRIS	Human Resource Information Systems
HRM	Human Resource Management
HRMS	Human Resource Management Systems
HRPA	Human Resource Portal Application
ISA	Integrated Software Suite Application
LAN	Local Area Network
LIC	Life Insurance Corporation
MAN	Metro Area Network
MIS	Management Information Systems

Acronym	Full Name
MNC	Multinational Company
MSS	Manager Self Service
OECD	Organization for Economic Co-operation and Development
OT	Over Time
PF	Provident Fund
PMS	Performance Management System
ROI	Return on Investment
SaaS	Software as a Service
SAP	Systems Application Provider
SBI	State Bank of India
SSA	Self Service Application
SSC	Self Service Center
TAM	Technology Acceptance Model
USP	Unique Selling Proposition
VCD	Video Compact Disc
VOIP	Voice Over Internet Protocol
WAN	Wide Area Network

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E-HRM Tools: An Empirical Study in Select Indian Organisations.

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ABSTRACT *: Information and communication technology (ICT) has provided leverage for fundamental reconfiguration of services provided by the human resource function, not only in terms of the range of activities that have been automated, but also in the point-of-access for internal stakeholders. Most of dynamic organizations are equipped with different types of tools which facilitates in delivery of HR services. The present research in its endeavor identifies the extent to which different instruments/ tools are in use in selected Indian organizations. This paper also explores difference in use pattern of (electronic human resource management) e-HRM tools in context to private vis-a-vis public and manufacturing/mining vis-a-vis services. It also identifies whether the application of e-HRM tools is same or different for select Indian organizations. Employees' responses have been compiled through a structured questionnaire consisting of demographic variables and statements regarding use of e-HRM tools. The researcher has used one sample t-test, paired sample t test, and one way ANNOVA as statistical toll for analyzing the result. The study reveals that all the e-HRM tools are not fully utilized in Indian organizations and private organization are ahead of public organizations in application of e-HRM tools similarly services sector is of manufacturing/mining sector in application of e-HRM tools. Among eight select organizations Coal India Ltd is laggard in application of e-HRM tools.*

KEYWORDS: *ANNOVA, **A**utomation, Point- of- access, Questionnaire, Stakeholders*

I. INTRODUCTION

The gradual penetration of information and communication technology (ICT) in all facets of business is leading to multidimensional and often unpredictable changes and advancements. Except manufacturing and operations most of the functions of the organization is performed with the click of mouse and latest evolution touch screen, thus most of the business and its employee in present face many challenges and opportunities that evolve from complex nature of work and unending changes taking place in the range of work. One of the major challenges includes rapid change in work technology. One of the largest breakthroughs in the work arena is automation, and digitisation of the work and near constant technological advancement, with a definite move towards the use of technologically sophisticated ways of getting things done, hence HR function of an organization cannot remain aloof and secluded and same pattern has got to be followed for human resource management practices, henceforth new, dynamic ways of managing HR are being seen every day. This has more impetus as different stakeholders are hungry of information need and ask for customised information in 24*7mode at their finger tips.

As per Wright and Dyer (2000) ICT has led to rapid development of e-business and still emerging as a big force, therefore HR and HR professionals are faced with the challenge of performing in ways that are in line with the business. In this view HR function becomes a critical partners in driving success, but to do so it require that HR changes its focus, its role, and its delivery systems. HRM has to act both proactively and reactively in response to the changing business environment and this is prevalent in the way that human resource management practices both within and outside the organisation is being conducted. New dynamic, flexible and adaptable way of managing HR issues policies and practices are being sought after and HR service delivery in electronic form is the solution of above mentioned issue. Application of ICT for HR function is named with various names like web-based human resources, human resource information systems (HRIS), virtual human resource management, human resource intranet, computer-based human resource management systems, and human resource portals but the term e-HRM is extensively used. Global and national changes are impacting the Indian business environment and subsequently influence how human resources are managed.E-HRM has made few buzzwords like automation, transparency, empowerment, paperless office, least human interference a reality which was once supposed the panacea for all the ills of workplace. Technology has led a revolution in the delivery of HR services in organisations. This is quite evident in the way that human resource services both within and outside the organisation is being delivered.

There is a wide practice by HR personnel in organization to activate e-HRM tools to execute responsibilities on digital base by e-personnel data management, e-administration, e-Job design and analysis, e-human resource planning, e-recruitment, e-selection, virtual training, online performance management, e-compensation, e-time and labour management, and e-compliance reporting resulting in stakeholders are less and less likely to receive HR services in face-to-face and pen and paper mode and consumes operational, non-strategic, transaction-oriented services by participating in ICT-mediated interfaces with HR staff or external vendors via telephones, mobile, World Wide Web and other wireless devices.

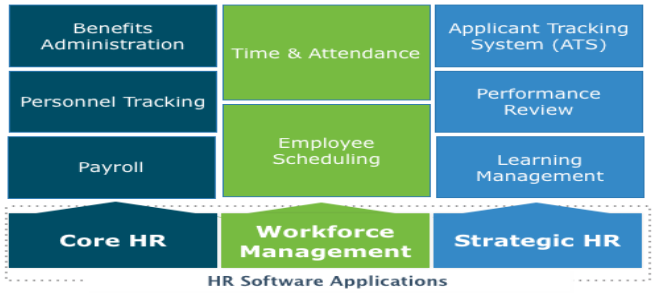
II. LITERATURE REVIEW.

Delivery Tools/ Instruments-According to Ketlley and Reilly (2003), computerized human resource information system consists of a fully integrated, organization wide network of HR-related data, information, services, databases, tools and transactions. Technology has only recently developed in a way that enables e-HRM to make its mark, especially the introduction of corporate intranets and web-enabled HRIS. The nature of the development path, however, varies considerably from organization to organization. Kavanagh and Thite (2008) reported that to improve effectiveness and efficiency in terms of service delivery, cost reduction and value-added services, HR departments came under pressure to harness technology that was becoming cheaper and more powerful. Sanayei and Mirzaei (2008) in empirical study aim at providing an explanation of e-HRM and introducing its activities and tools, after the investigation, the effect of various independent variables such as job satisfaction, professional commitment, and organizational commitment on the effectiveness of HRM as a dependent variable. E-HRM tools such as intranet, extranet, HR portals; integrated HR suite software is rarely used, however according to expert's judgment if they are used, they would have a positive effect on HRM output in Iranian organizations. Florkowski and Olivas-Lujan (2006) examines the diffusion patterns of eight information technologies that are transforming HR service-delivery in North America and Europe: HR functional applications, integrated HR suites, IVR systems, HR intranets, employee and manager self-service applications, HR extranets, and HR portals. The overall diffusion was best characterized as an outgrowth of internal influences, fuelled primarily by contacts among members in the social system of potential adopters. Companies in the 21st century can be broadly said to have adopted at least one of the above mentioned e-HRM technologies.

Foster et al. (2004) describe that the application of the internet to the Human Resource function (e-HR) combines two elements; one is the use of electronic media while the other is the active participation of employees in the process. Bondarouk, T. et al. (2004) states organisations need to embrace the e-HRM revolution which relies on cutting edge information technology, ranging from internet-enabled human resources information systems (HRIS) to corporate intranets and portals. According to Biesalski (2003), e-HRM is a web-based tool to automate and support HR processes**.** According to Lengnick-Hall, & Moritz, (2003) the final stage of total digitalization in the 1990s arrived when HR professionals and ICT specialists joined forces and developed electronic information systems that moved HR decision making from drawers to computer As per Watson Wyatt's (2002) survey of HR technology issues revealed that a wide variety of HR and payroll systems are being used today. According to the results of the study, web technology is the predominant method for delivering HR-related services to employees and managers, and offers significant opportunities to improve communication, knowledge sharing and HR delivery systems In the views of Wright**,** M. et al. (2001) e-HRM refers to the processing and transmission of digitized information used in HRM, including text, sound and visual images, from one computer to another electronic device. As stated by Doughty (2000), today, within the HR software market there are a myriad of HR systems, payroll, training administration, 360 degree feedback, psychological testing and competency software tools operating in their own software features.

HR functional applications (HRFA) – According to Florkowski and Olivas-Luján (2006) HRFA are software-enabled automation of discrete tasks and responsibilities to the HR function. Application software is a defined subclass of computer software that employs the capabilities of a computer directly to a task that the user wishes to perform. An HR functional application implies software for a specific activity or group of activity. Most common functional applications available for the different tasks are, benefits administration, personnel tracking and payroll, Recruitment, Time and attendance, Payroll, Benefits administration, Performance appraisal, Industrial relations advisory, Occupational health and safety module.

Figure-1 Functionality of HR Software Applications



Source- http://www.softwareadvice.com/hr/

As per Software Advice (2014), core HR encompasses the three traditional human resources management functions: benefits administration, personnel tracking and payroll. Workforce management comprises the range of software solutions intended to effectively schedule and track the workforce and include applications to track time and attendance, monitor compliance with labor laws, and usually include payroll functionality, or integrate well with other payroll software. Strategic HR involves growing company by attracting and developing the best people, as well as better managing workforce overall. Strategic HR applications generally provide some combination of applicant tracking and recruiting, learning management, as well as performance review functionality. This type of software streamlines these strategic processes to ensure that a company is using its staff as efficiently as possible, and also that employees are continuing to grow and develop--increasing employee satisfaction and retention rates.

Integrated HR software suite applications (ISA) – As per Wikipedia (2014) Integrated software is software for personal computers that combines the most commonly used functions of many productivity software programs into one application. According to Florkowski and Olivas-Luján (2006) ISA is multiple applications bundled together as a package are referred to as an application suite. The separate applications in a suite usually have a user interface that has some commonality making it easier for the user to learn and use each application. And often they may have some capability to interact with each other in ways beneficial to the user. Integrated software suite applications (ISA) can be contrasted with system software which is involved in integrating a computer's various capabilities, but typically does not directly apply them in the performance of tasks that benefit the user. ISA delivers business intelligence with analysis including, online analytical processing (OLAP), data mining, extract, transformation, and data warehousing, and reporting. This helps achieve optimum levels of capability and providing complete control of all HR aspects by integrating all organization and employee data to provide information on every facet of the operations right from employee policies to payroll processing. This also generates comprehensive reports that stretch the entire spectrum of the database.ISA has lot of leverage over HR functional application like, enhanced navigation, flexible functionality, simplified data management, streamlined communications integrated reporting, and shared environment and speed to value. As per Software Advice portal (2014) of course, core HR, workforce management and strategic HR functions often overlap. While there are best-of-breed solutions for individual functions in each category, there are also integrated suites boasting across-the-board functionality.

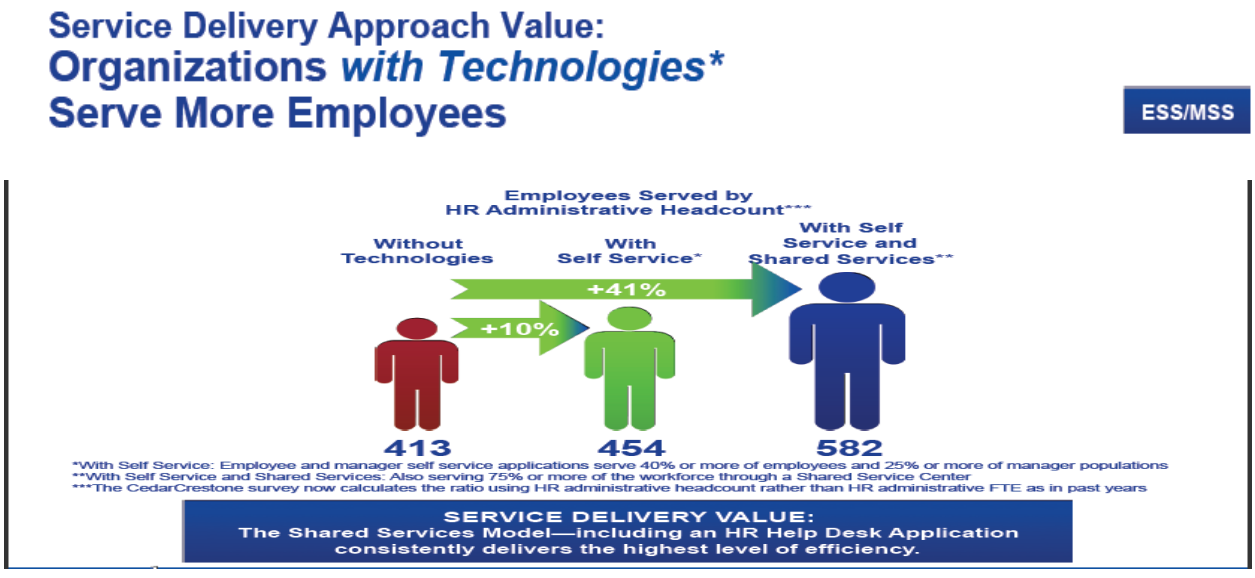
Interactive voice response (IVR) – As per Webpedia (2014), interactive *v*oice response, is a communication technology in which someone uses a touch-tone telephone to interact with a database to acquire information or enter data into the database. IVR technology does not require human interaction over the telephone as the user's interaction with the database is predetermined by what the IVR system will allow the user access to. As per Wikipedia (2014) Interactive voice response (IVR) is a technology that allows a computer to interact with humans through the use of voice and duel- tone multi- frequency-signaling (DTMF) tones input via keypad. Florkowski and Olivas-Luján (2006) states IVR system channels phone calls automatically to targeted recipients or recordings by pressing touchtone buttons. IVR allows employees to interact with a company's host system via a telephone keypad or by speech recognition, after which they can service their own inquiries by following the IVR dialogue. HR function subsequently leverages this technology to facilitate telephone-driven consumption of such services as benefits enrolment, training registration, employee announcements, work-related surveys etc. External organizations and agencies also are able to verify employees' status or income levels by calling the appropriate numbers. IVR helps in automation of operations, Serve employee after normal business hours, improve employee service, lower call centre costs, prioritize employee, so urgent calls are handled quickly.

HR intranet applications (HRIA) – As per Weidenhammer (2013) an intranet creates a single, secure repository for all confidential human resources information and processes. It can provide an easy-to-navigate environment that is accessible by all employees, regardless of where they are located or which computing platform they are using. Employees have immediate access to the latest information. An Intranet can help employees quickly find the information they need. Employees aren't overwhelmed by cumbersome manuals, and they save time searching because they don't have to wade through pages of irrelevant information. To make things even more efficient, employees can enter data online. This data can be automatically integrated into back-end information systems, so it can be validated on input, eliminating errors. In addition, the human resources staff does not have to re-enter employee data, freeing up time for other more important tasks.

Accordig to Florkowski and Olivas-Luján (2006) HRIA is private computer network that provides employees with direct access to link internal database and/ or a seamless interface with the internet. It is a network designed to organize and share information and carry out digital business transactions within a company. An intranet employs applications associated with the internet such as web pages, browsers, e-mails, newsgroups and mailing lists but is accessible only to those within the organization. HR Intranets offer the greatest innovation to HR departments since the advent of the desktop computer. As per Sanayei and Mirzaei (2008), as intranet usage proliferated worldwide opportunities emerged to utilize e-mail and electronic-form software to reduce the costs of data entry for payroll, benefits administration, training administration etc. Rodgers, K. (2009) the term HR intranet means different things to different people, but it's really about using your internal IT network to communicate and collaborate. An HR intranet usually provides self-service access to your central HR systems so managers and staff can input personal data and carry out transactions online, such as booking training courses. Some firms also have sophisticated employee portals on the front – a sort of internal home page where employees go to log on to different IT systems and get information. HR self-service capability is typically provided as an add-on to your HR management system. HR intranet facilitates improvement in data quality, empowerment of employee, reduction in paper consumption, streamlining process, rapid dissemination of valuable information on a wide variety of topics, enables employee to perform various task, connects employee and standardizes HR practices.

Self-service (SS) applications- As per CedarCrestone (2013) HR Systems Survey report with self service 10% more employees can be served and 41% more employees can be served with self service and shared service when compared to HR service delivery instruments without these technologies.

Figure-2 Service Delivery Value of Self Service and Shared Service



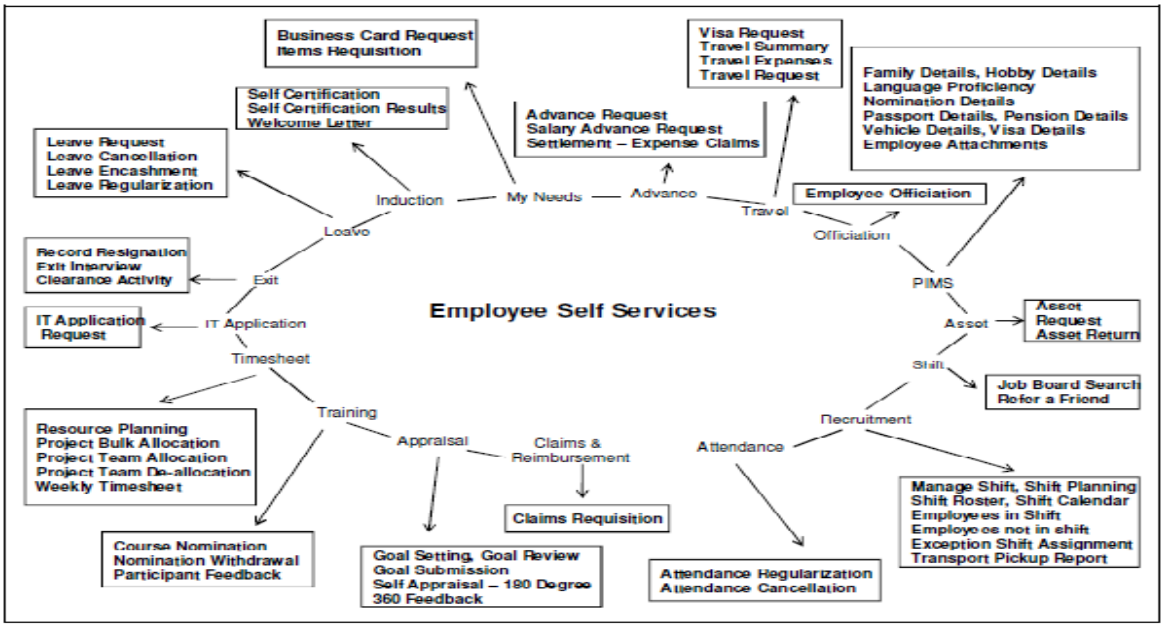
Source- CedarCrestone (2013), "CedarCrestone 2013-2014 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics" – 16th Annual Edition, Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2013-HRSS-HRTech-100713.pdf

Self-service application can be broadly classified in two ways.

Employee self-service (ESS) applications- As per Ulrich, (1997), while attempting to make strategic changes within the human resource function, HR professionals must still deliver good HR services to their stakeholders who include employees and managers. One of the most important fundamental principles in managing human resources is fostering the employment relationship so that employees may feel an attachment to their work and contribute willingly to the success of the organization. As per Keebler & Rhodes (2002), there is agreement on the fact that the employees of an organization are just as important as its customers, and therefore need to be kept satisfied and motivated. This can be achieved to an extent by improving HR service delivery. According to Ketlley P, and Reilly P (2003), before embarking on e-HRM, organizations should review and optimize their business processes. This may be a case of major process redesign, or a more tactical exercise tackling areas of concern. Following a process review, a common next step is to introduce a form of self service. This is likely to involve employee self service, where staff can access their personal record and update it or add new information. Keebler & Rhodes (2002) go on to discuss how, while improving HR efficiencies is the major focus in e-HRM technology design, it should also assist in making e-HRM technology more user-friendly. This should improve the service experience of the managers and employees. In this way, a client service improvement of the HR system can be achieved.

Florkowski and Olivas-Luján (2006) mentions ESS is a software-enabled set of HR transactions that can be initiated and completed without direct involvement of HR staff. It is a web-based application tool that provides employees with access to their personal records and their payroll details. It enables employee self-service and provides access to a comprehensive employee database. The employee database acts a centralized repository of vital employee related information available to HR, employees and managers. Its inherent employee self-service capabilities ensure that this data remains current without tedious data entry by HR. The employee self service is the base on which all other functional modules can be added to create a comprehensive employee self service based HR system. .The Employee Self Service pay an important role in working time and schedule, personal information, training and performance management, life events, benefits, careers, time off from work, with ESS employee can view and access pay slips, summary of year's earnings and deductions, loan statements, PF statements, reimbursement statement, income tax statement, IT declaration and IT calculator, reimbursement claim workflow, ticketing, leave workflows.

FIGURE-3 ESS- Bird Eye



SOURCE- Varma S., Gopal, R. (2010), The implications of implementing electronic human resource management (e-HRM) systems in companies, research thesis, Dr. D. Y. Patil University,. Maharashtra.

Manager self-service (MSS) applications- According to Adamson & Zampetti, (2001).The objectives of manager self-service include improvement in the delivery of HR services, elimination of process steps, approvals and forms, speeding up and streamlining of workflow, reduction in administrative costs, improvement in management's access to important information, providing more time, and finally, enabling strategic HR

Manager self service provides managers with the tools needed to efficiently perform employee administration, as well as the information needed to help employees improve performance and enhance their skills. Manager self service transforms managerial activities from manual, paper-based processes with multiple levels of approval to a web-enabled, self-service system, it allows both managers and employees to stay focused on improving performance and simultaneously minimizes unnecessary human resources involvement in manager-employee interactions, increasing organizational efficiency. As per ADP Employease (2013) It has been seen that line managers are irritated by the fact that they are one step behind from information or they have only secondary information not primary. Manager Self-Service puts the information managers need at their fingertips giving them the ability to more closely monitor and direct their team towards the strategic goals of the organization. Manager self-service application leverage its utility in employee information, organization and staffing, employee time and schedule, employee leave and stability, evaluation of employee competencies, compensation management, timely performance reviews and development processes. It also facilitates new-hire initiation, reporting, competency gap analysis, employee training and development, automated workflows, organization charts, status changes, review and approval of timecards and leave requests, budget and cost centre, delegation of authority at the appropriate level and time, project management, administration, PF funds & gratuity mgmt. According to Ketlley P, and Reilly P (2003*)*, Manager self service is usually a logical development, allowing the sign-off of various decisions or proposals. Redesigning the HR function will impact on the roles and skills of HR staff. There will be many areas of up skilling as the move away from transactional work gathers pace. This will stretch the capability of staff, not just in terms of technological facility but also in customer and relationship skills. As per Florkowski and Olivas-Luján (2006) MSS is a software-enabled set of HR transactions by managers that can be initiated and completed without direct involvement of HR staff.

HR extranet applications (HREA) – As per Murugan et al. (1988) extranet is the electronic computer-to computer exchange of information in a structured format that can occur between business trading partners, vendors and between various units within an organization. Accordig to Florkowski and Olivas-Luján (2006) HREA application is a private computer network that links the information system of client-firms to external vendors delivering co-sourced or outsourced HR service. HR extranets essentially act as conduits for electronic commerce between client firms and HR vendors or a business-to-business (B2B) market for HR services. Two different business models can govern these relationships. In the first one, the HR department shares workforce data with vendors who use the information to effectively manage HR services under their stewardship. Lacking authorization to communicate with vendors, employees continue to go to their employer to update service choices, revise personnel records, and voice complaints about services rendered. The second model saddles vendors with broad responsibility for database management and service administration. Here, workers use the extranet to directly initiate or modify service delivery from external providers. Flanagan (1997) state extranet facilitates the exchange and processing of high volumes of data from one computer to another. Extranets have been used by employees to communicate with vendors, service providing partners, and numerous other audiences who contribute to the operating efficiency or to the bottom line. As per HRCentral (2013) HR extranet has application with employee training, management training and coaching, legal compliance, salary, benefit and payroll administration, personnel file, health and safety programs, unemployment claims management etc.

HR portal applications (HRPA) – As per Microsoft business solution (2012) a portal is a unified place that connects people to contextually relevant information, services, and applications. Accordig to Florkowski and Olivas-Luján (2006) HRPA is website interface that offers a personalized unified access point to all information sources, tools, and systems individual needs to effectively consume or deliver HR services. The range of work-related data and activities that one can link to is role driven. In some instances, employees have the ability to interact directly with external vendors catering to personal needs and interests. Portals are highly configurable through code modules. As per Microsoft business solution (2012) HR portal can provide HR-related content and applications to those who need it—those assigned to the Employee, Manager, Payroll Administrator, and Human Resources Administrator roles. As per Quikker (2008) HR portal solutions offer access to additional process based tools and applications that enable staff to achieve major efficiencies in their work. The HR Portal now becomes a habitual tool for employees to manage all of their work related tasks, from requesting a holiday; through managing their performance and development, as well as providing access to improved communication tools to enable collaboration. Through better understanding of organizational objectives, and how they can contribute, staff becomes more engaged and aligned. They become more productive. The capability for integration offered by HR portals represents another shift in value by protecting existing investments in systems and processes. With an HR portal 'synchronized' to other systems within the business it now becomes the single point of integration for company information and offers an option for employee self service – single sign-on /single data-entry.

HR Magazine, editorial content (2010) states personalization, online decision support, tools designed to help employees compare benefits plan features, understand insurance coverage relating to specific events and estimate medical costs while enrolling via portals is highlights of portal application. HR portal give employee a consultant while reducing the volume of e-mail and calls to HR staff members for help with benefits decisions. Video is also playing a more prominent role on HR portals. Latest portal is helpful for employees to be able to navigate to all of those areas seamlessly to complete transactions without receiving multiple login prompts. As HR portals continue to evolve, many experts say the next wave will feature social networking-type tools that encourage employees to share expertise, join communities of practice or connect in other ways. Kluemper, D & Rosen, P. (2009) states, indeed, social media, or web 2.0 as a vibrant network has been suggested by some scholars to be the potential technology that will have a major impact on HR. Firestone (2003) states HR portals are vehicles through which HR information and applications can be channelled effectively and efficiently. As per Cascio (2000) and Collins (2001), through HR portals, employees can update own administrative activities and may have also have access to customized and personalized news, resource applications, and e- commerce options. Through HR portals managers are able to generate reports, examine employee activities and manage their own activities"

III. RESEARCH METHODOLOGY

Research emphasis and objective-The literature review reveals very little empirical study has been from emerging countries like India which is all together different from western countries, so there is a possibility of different result in context to e-HRM instruments and tools in use. The present research in its endeavor identifies extent to which e-HRM tools are in use in eight select Indian organizations. This paper explores difference in use pattern of e-HRM tools in context to private vis-a-vis public and manufacturing vis-a-vis services. This paper also explores difference in use pattern of e-HRM tools in among select Indian organization.

Research Hypothesis –

A1) H0-It is hypothesized that application of different e-HRM tools are same to the mean (test) value in Indian organizations.

A2) H0- It is hypothesized that that the application of e-HRM tools are at the same level for public and private organizations.

A3) H0-- It is hypothesized that that the application of e-HRM tools are at the same level for manufacturing/ mining and services organizations

A4) H0-- It is hypothesized that the application of e-HRM tools are at the same level for all the select Indian organizations.

Sample unit - The researcher has selected eight organizations as sample organizations which have sound HR practices. The study consists of public and private organizations both from manufacturing/mining sector and services sector. The organization where the study was conducted is illustrated below.

Table- 2 Sample Organizations

Organization	Manufacturing /Mining	Services
Public	1. National Thermal Power Corporation (NTPC). 2. Coal India Ltd (CIL).	3. State Bank of India(SBI) 4. Life Corporation of India (LIC)
Private	5. Moser Baer India Ltd 6. Tata Motors	7. ICICI Bank Ltd 8. HCL

Source –Formulated by scholar

Sample profile and sample size- Sample (target respondents) are all the internal stakeholders like operatives, supervisors, managers of the select Indian organizations. With 5% confidence interval **(**margin of error) and 95% confidence level with total population of 9, 50,189 (tentative sum all the employee of the select organizations) sample size needed is 384. Estimating 33 % (one out every three) as good response rate, total number of 1164 questionnaire were sent for survey. The percentage of people who do actually fill out a survey that they receive is known as the response rate. Out of 180 questionnaire (surveys) send online, 32 respondents filled the questionnaire and submitted i.e. response rate of 17.8%. Out of 984 questionnaire(surveys) provided to respondents in hard copy format 418 responses were collected i.e. response rate of 42.5%.total 450 responses out of a total number of surveys of 1164 i.e. overall response rate of 38.7%**.** Out of 450 responses 405 responses were found valid. Response having discrepancy and incomplete were not fit for further processing were discarded. For compatibility and convenience in data analysis and hypothesis testing, 50 responses from each

organization were entered for statistical interpretation. The time period of the study (data collected) is from April 2013 to Feb 2014.

Data collection- Structured questionnaire with 5-point response scale (not at all, very little, to some extent, to great extent, very much) has been used as a research instrument. A score of 1 for the response not at all, 2 to very little, 3 to some extent, 4 to great extent, 5 to very much is assigned. The statement of questionnaire is as follows.

[1] To what extent Interactive Voice Response (IVR) is used as an instrument for performing HR activities in
[2] your organization?
[3] To what extent HR Intranet is used as an instrument for performing HR activities in your organization?
[4] To what extent Self Service (SS) (Employee Self Service –ESS / Manager Self Service -MSS) is used as an
[5] instrument for performing HR activities in your organization?
[6] To what extent HR Extranet is used as an instrument for performing HR activities in your organization?
[7] To what extent HR Portal is used as an instrument for performing HR activities in your organization?
[8] To what extent HR Functional Application (HRFA) software are used as an instrument for performing HR
[9] activities in your organization?
[10] To what extent Integrated HRM Suite Applications (ISA) software is used as an instrument for performing
[11] HR activities in your organization?

IV. DATA ANALYSIS AND INTERPRETATION.

Beside descriptive statistics one sample t-test had been used to test the hypothesis A1. Paired Sample t Test has been used to test the hypothesis A2 and A3**.** ANOVA has been used to test the hypothesis A4. A Cronbach's Alpha of 0.812 shows questionnaire are reliable.

Application of Tools For testing the hypothesis (A1), one sample T -test has been used using a hypothised mean value of 3.5 assuming that a mean value less than 3.5 will offer support to the null hypothesis. The aim here is to compare the sample mean with hypothised mean for probability estimation, that the sample mean is different by chance or random occurrence. As SPSS don't have a provision for one tailed t-test so the researcher has converted 2-tailed value in one tailed value by dividing it by two

Table-3 One-Sample t Test of e-HRM Instruments/ Tools

Attributes	Test Value = 3.5	Degree of freedom = 399	
	Mean	t	Sig. (2-tailed)
IVR	2.427	-18.975	.000*
HRIA	4.147	12.929	.000*
SS	3.875	6.222	.000*
HREA	3.060	-6.284	.000*
HRPA	3.602	1.555	.121
HRFA	2.682	-17.009	.000*
ISA	3.670	3.079	.002*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t +1.645, one tailed test, df 399, sig 5%)

In case of IVR low significance values of 0.00 indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected but t value is negative and observed mean value less than test value, it can be concluded that IVR as an instrument not fully utilized in Indian organization. In case of HRIA low significance values of 0.00 indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected. It can be concluded that HRIA as an instrument fully utilized in Indian organization.In case of SS, low significance values of 0.00 indicate that there is a significant difference between the test value and the observed mean. So the null hypothesis is rejected. It can be concluded that SS as an instrument fully utilized in Indian organization. For HREA low significance value 0.00 indicates that there is there is a significant difference between the test value and the observed means. So the null hypothesis is rejected but t value is negative and observed mean value less than test value, it can be concluded that HREA as an instrument not fully utilized in Indian organizations. In case of HRPA high significance values of .0605 (.121/2) indicates that there is no significant difference between the test value and observed value. So the null hypothesis is accepted.

Based on this results it can be concluded that application of HRPA instruments equal to mean value, so one can conclude that HRPA as an instruments are not fully utilized in Indian organization. In case of HRFA low significance values of 0.00 indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected but t value is negative and observed mean value less than test value, it can be concluded that HRFA as an instrument not fully utilized in Indian organization. In case of ISA low significance values of 0.01 (0.02/2) indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected. It can be concluded that ISA as an instrument is fully utilized in Indian organizations. Overall null hypothesis (H0) A1 is partially rejected and can be concluded that only HRIA, SS, ISA is fully utilized as e-HRM tool in Indian organization.

E-HRM Instruments/ Tools (Public vis-a-vis Private) - To test the hypothesis (A2) paired sample T test has been used as a statistical tool.

TABLE-4 Paired Sample t Test of e-HRM Instruments/ Tools
(Private vis-a-vis Public)

Pair	Tool	Mean Private	Mean Public	Difference of Mean	t	Sign
1	IVR	2.77	2.085	.685	7.579	.000*
2	HRIA	4.44	3.855	.585	6.198	.0008*
3	SS	4.215	3.535	.680	6.356	.000*
4	HREA	3.555	2.565	.99	8.437	.000*
5	HRPA	4.00	3.205	.795	6.699	.000*
6	HRFA	2.685	2.68	.005	.051	.959
7	ISA	4.065	3.275	.79	7.969	.0008*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (Table value of t 1.96 two tailed test, df 399, sig 5%)

Table-4 shows null hypothesis-A2 for IVR, HRIA, SS, HREA, HRPA, ISA is rejected as the significance level is much below the assumed significance level of t at 0.05.So application of IVR,HRIA, SS, HREA, HRPA,ISA is not same for public and private organizations. Null hypothesis-A for e-HRM tool HRFA is accepted as the significance level is above the assumed significance level of F at 0.05 hence, the application of HRFA is same for public and private organizations. Overall null hypothesis (H0) A2 is partially rejected

E-HRM Instruments/ Tools (Manufacturing vis-à-vis Services) -To test the hypothesis A3 paired sample T test has been used as a statistical tool.

TABLE- 5 Paired Sample Test of e-HRM Instruments/ Tools
(Manufacturing/Mining vis-à-vis Service)

Pair	Tool	Mean Manufacturing	Mean Service	Difference of Mean	t	Sign
1	IVR	2.37	2.485	-.115	-1.167	.245
2	HRIA	4.005	4.29	-.285	-2.847	.005*
3	SS	3.84	3.91	-.07	-.584	.560
4	HREA	3.215	2.905	.31	2.115	.036*
5	HRPA	3.515	3.69	-.175	-1.356	.177
6	HRFA	2.51	2.855	-.345	-3.632	.000*
7	ISA	3.51	3.83	-.32	-2.915	.004*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (Table value of t 1.96 for two tailed test, df 199, sig 5%)

For HRIA, HREA, HRFA, ISA null hypothesis is rejected as the significance level is below the assumed significance level of t at 0.05.So, application of HRIA, HRFA, ISA is not same for manufacturing/mining and services sector. Null hypothesis-A3 for e-HRM tools IVR, SSA, HRPA is accepted as the significance level is above the assumed significance level of t at 0.05.So application of IVR, SSA, HRPA is same for

manufacturing/mining and services sector. Overall it can be concluded that null hypothesis (H0) A3 is partially rejected for e-HRM tools taking manufacturing/mining vis-à-vis service as paired sample test of comparison.

E-HRM Instruments/ Tools (Organization vis-a-vis Organization)-To test the hypothesis (A4) one way ANNOVA has been used as a statistical tool.

TABLE- 6 One way ANNOVA of e-HRM Instruments/ Tools
(Organization vis-à-vis s Organization)

Tool	MEAN (ORGANISATION WISE)								MEAN	F	SIG.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	TM			
IVR	1.4	2.1	3.3	2.48	3.04	2.4	2.06	2.64	2.43	18.02	.00*
HRIA	2.5	4.34	4.1	4.46	4.7	4.2	4.26	4.62	4.15	41.23	.00*
SS	2.08	3.96	4.02	3.42	4.44	4.4	4.24	4.44	3.87	35.57	.00*
HREA	2	3.56	3.06	2.06	3.82	3.26	2.94	3.78	3.06	16.27	.00*
HRPA	2.02	3.86	3.92	2.94	4.22	3.82	4.04	4	3.60	21.80	.00*
HRFA	2.16	2.84	2.62	2.8	2.6	2.6	3.16	2.68	2.68	4.57	.00*
ISA	2.2	3.88	3.98	3.94	4.14	3.44	3.52	4.26	3.67	25.18	.00*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, D.F. 399, sig 5%)

Table-6 shows significance level all e-HRM tools; IVR, HRIA, SS, HREA, HRPA HRFA, and ISA is below the assumed significance level of F at 0.05so null hypothesis (H0) A4 is rejected and it can be concluded that level of all the e-HRM tools is different in Indian organizations.

V. CONCLUSION RECOMMENDATIONS AND MANAGERIAL IMPLICATIONS

Conclusion- By examining the data, it became evident that most of e-HRM tools like, HRIA, SSA, ISA and are in high use in Indian organizations HRPA has limited use and application of IVR, HREA, HRFA, is minimal. It is quite obvious that most of Indian organizations are using ISA hence HRFA is less in use. From analysis it is quite obvious application of most of e-HRM instruments like IVR, HRIA, SSA, HREA, HRPA, and ISA are significantly different for private and public organizations. But in case application of HRFA there is no significant difference or we can say that application of HRFA is same for public and private organizations. Positive t values indicate private organizations are ahead in application of e-HRM tools compared to public organizations.In the same way researcher finds that application of some of e-HRM instruments like HRIA, HREA, HRFA, ISA, are significantly different for manufacturing/ mining and services. But in case application of IVR, SSA and HRPA there is no significant difference or we can say that application of these instruments is same for manufacturing/mining and services organizations. Negative t value shows for most of the tools except HREA, services sector are ahead. In case of HREA, manufacturing sector is ahead by providing a link to employee for accessing third party services.Research statistics shows that there is difference in application of e-HRM tools, so it can be said depth and penetration of e-HRM tools are not uniform in Indian organizations. Further it is obvious from the study that CIL is laggard as mean value to most of the tools is lowest when compared to other organizations.

Recommendations- It is obvious that applications of e-HRM instruments are at different stage of growth and all the instruments are not fully utilized. To gain maximum benefit out of the e-HRM instruments, organization must inculcate instruments relevant to them and simultaneously provide awareness and training to those employees who are either digitally illiterate or skeptical of using these instruments. In some organization at corporate level these instruments are functional but at unit level its application is limited. In similar manner application of these instruments are limited to certain level of employee or those who are higher in the hierarchy and there is dearth of trickledown effect. It is evident from the fact that public sector organizations are laggards in application of different e-HRM instruments compared to private sector organization and these organizations are supposed to take more initiative to harness the benefit of e-HRM. HR personnel must create awareness and if possible conduct workshop and seminar for staff and line manager to make it successful. The biggest motivation for employees to use e-HRM instruments is to provide a link to choose and track their career path.

These recommendations are more relevant to labor intensive organization like CIL where lots of e-HRM tools are still not functional and concept of HR self service, automation and mutation of transactions are distant dream. The demographic structures of the employee are also not in favor of e-HRM implementation. HR professionals, line managers and top management have to work hard and have take it as a mission, moreover

after 4-5 years almost all the employee will retire who joined CIL at the time of nationalization. Computer literacy can be imparted to those workforce who are literate and it has been seen that lot of workforce are illiterate or less educated who joined CIL at the time of nationalization.

Managerial Implications- Globalization is possible only when companies are technology savvy, HRM department that is capable to sail in IT enabled superhighway and can support a globalized workforce. The proliferation of information technology such as local area networks, corporate intranets, portal, e-mail, videoconferencing, social networking site is the hallmark of lean and mean flat networked company. If an organization want to be global then there HR function must have the support of technology, i.e. tools of e-HRM must be included while delivering the services.

A lot of discussion has been made related to digitization of HR function leading to dehumanization of HR function. Almost all the services being delivered on digital platform, HR function is more IT centric rather than people centric, hence putting a limitation on HR executive's role. Now they may be supposed to play secondary role and facilitator of IT function in delivering HR services. In some cases at the highest level HR professionals are just supposed to formulate HR framework, policy and strategy and all other activities being automated.

HR function s likely to be more process, IT oriented and lacking human touch, posing a big challenge for HR as a function. HR managers will show more willingness in acquiring hard IT skill rather than gaining soft man management skill.

Sometime to safeguard interest and presence, HR managers may put hindrance in digitization of HRM function. Further all the HR issues cannot be mechanized and has to be resolved with case to case merit where HR managers have to take a leaf out of their cap and look beyond electronic solutions.

With improved transparency and empowerment, the role of HR as middleman has reduced, sometime sense of insecurity and neglect may crop up in the mind of HR professionals. HR professionals have to accept the fact and have to work for higher order needs of the organization.

Rapid growth of networking of computers and virtualization of HRM departments, HR practitioners are having a digital career as there is reduction in cost of technology and automation of process and work from home culture. So HR practitioners have lot of challenges and opportunities. These professionals will be tested on several parameters and to survive and excel have to deliver gold.

Generation Y is more technology savvy and knowledge workers, there could be hardly any resistance from stakeholders and HR department can adhere to its mission and go for digitization. Now demand of the day is to provide services on mobile/ Smartphone platform.

Social networking or web2.0 technology has already entered in some organizations for providing HR related issues. So HR professional and line managers should be ready for it and any other big change.

Overall it can be said e-HRM as an instrument in the hand of HR professionals can remove almost all the work related issue if implemented with right approach and spirit. So whole responsibility is with managers if e-HRM doesn't succeed they cannot blame e-HRM, if they do then people will use proverb "A bad workman quarrels with his tools".

VI. BARRIERS AND LIMITATIONS

One of the biggest limitation of this research is there is dearth of empirical research in Indian context and exclusive studies related to different e-HRM tools. Some of the employees were even sceptical of purpose of the study. In some cases researcher has to clarify and persuade the respondents. In some cases especially at operative level the researcher has to explain different queries of e-HRM. Present research has some limitation as researcher has selected eight organizations so its result cannot be blindly generalized to all other Indian organizations. Contextual analysis is important before implementing the results. Generalizing outside of this context, for instance to relatively smaller organizations, other sectors, more peripheral parts of the organization, or some other parts of the world, should only be done with great caution. The researcher has utilized non-probability sampling. Participants were selected based on judgmental and convenience sampling techniques. Extracting information related to relevant HR practices or application of ICT for HR services, is hard nut to crack as employees were unwilling to share as they bound by employment code are not supposed to disclose office/ business secrets.

One of the limitations of this research is perception based study. Respondent's opinion has been measured. It has been assumed that the respondents have revealed the correct information

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Evaluation of Level of E- HRM in Indian Organizations

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Abstract

The role of HR function in few organizations are only limited to elementary HR interventions, day to day activities, time and labor management, salary and personal data administration, often named as operational (transactional) HRM. Organizations with sound and healthy HR function, having most of prevalent and relevant HR practices such as recruitment, training and development, performance appraisal, reward fully functional and duly focused HR department termed it as relational (traditional) HRM. Some of organizations have faith in employer brand, change management, knowledge management, enabling strategic capability to HR function named as transformational HRM. Three level of HR function has been identified but extent to its digitization varies from organization to organization. In an organization HR function may be at highest level i.e. transformational level but application of electronic tools may be limited to operational or relational level. This main aim of this paper is to identify the level to which electronic human resource management (e-HRM) is prevalent in Indian organizations, difference in level of e-HRM in context to private vis-a-vis public and manufacturing vis-a-vis services. Response has been sought after from employees of eight organizations using structured questionnaire as instrument. Factor analysis, one sample t- test and paired sample t- test has been used as statistical tool for data analysis and inferences. From factor analysis three factors have been extracted. Result depicts that e-HRM at operational level for all the attributes and there is significant difference in level of e-HRM for few attributes when compared private vis-a-vis public and manufacturing vis-a-vis services.

Keywords: Digitization, Factor Analysis Operational, Relational, Transformational,

Introduction

The gradual penetration of information and communication technology (ICT) in all facets of business is leading to multidimensional and often unpredictable changes and advancements. ICT has led to rapid development of e-business and still emerging as a big force, therefore HR and HR professionals are faced with the challenge of performing in ways that are in line with the business. According to Wright and Dyer (2000), HR function becomes a critical partners in driving success, but to do so it require that HR changes its focus, its role, and its delivery systems. HRM has to act both proactively and reactively in response to the changing business environment and this is prevalent in the way that human resource management practices both within and outside the organisation is being conducted. New dynamic, flexible and adaptable way of managing HR issues policies and practices are being sought after and HR service delivery in electronic form is the solution of above mentioned issue. In order to understand how e-HRM affects the work of human resource professionals and line managers, it is necessary to look at the various ways in which human resource management is conducted within organisations. Three main forms of e-HRM,

operational, relational, and transformational are very closely related to the way in which HRM practices develop within organisations. For the operational type of e-HRM, HRM activities that were offered face-to-face now are being offered through web-based technology. For relational e-HRM, most of HRM functions will have a support of internet technology rather using pen and paper. Transformational e-HRM creates a change-ready workforce through an integrated set of web-based tools that enables the workforce to develop in line with the company's strategic choices. Different levels of e-HRM differ from organisation to organisation. Some of the organisations would use technology for initial level i.e. operation and others using technology to the advanced level named as transformational e-HRM and a part of the organisation in between at the relational level.

Literature Review

Lepak and Snell (1998) make distinction in HRM services, namely operational HRM, relational HRM and transformational HRM. Wright and Dyer (2000) made a similar distinction in service delivery of HRM services named as transactional HRM, traditional HRM, and transformational HRM. Martin, Reddington and Alexander (2008) asserted that e-HRM can be classified according to three dimensions namely operational HRM, relational HRM and transformational HRM. Same was vindicated by Bondarouk and Ruël (2007) as well as Strohmeier (2007) and identified different types of e-HRM and refers to them as consequences. These consequences included operational, relational and transformational.

Lengnick-Hall and Moritz (2003) view e-HRM development slightly differently to other authors. They purport that e-HRM develops through three main waves within an organisation. The most simplistic 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 organisation

According to Bieasalski (2003) e- HRM offers the opportunity to automate administrative HR-work and to optimize value creating HR- activities. Three levels of development can be distinguished as web-presence HR, web-enabled HR, web-energized HR.The first level "web presence" means that parts of the e-HRM-solution are present. Web-enabled means that all parts of the e-HRM solution are present and can be accessed online. The third level describes more proactive e-HRM-solution that is fully implemented, can be accessed online and is used intensively by the employees.

As per Scott (2008), if one would separate the HR function into two broad components, namely transactional and non-transactional activities, then it is easy to envisage the transactional components being e-enabled. In most of the non-transactional HR activities, a continuum of e-possibilities exists. The conservative point on the continuum would suggest that no electronic mechanisms should be used to replace "people" activities, while the radical view on the continuum would suggest that technology could replace all direct human interaction with the HR customer.

TABLE-1 Levels of E-HRM

Researcher	year	Level 1	Level 2	Level 3
Lepak & Snell	1998	Operational	Relational	Transformational
Wright & Dyer	2000	Transactional	Traditional	Transformational
Lengnick-Hall & Moritz	2003	Publishing	Automation	Transformation
Bieasalski	2003	Web-presence	Web-enabled	Web-energized
Bondarouk & Ruël	2006	Operational	Relational	Transformational
Strohmeier	2007	Operational	Relational	Transformational
Martin, Reddington & Alexander	2008	Operational	Relational	Transformational

From table -1 it is obvious that there is unanimity among the researcher regarding level of e-HRM as operational, relational and transformational, as originally conceived by Lepak and Snell (1998).

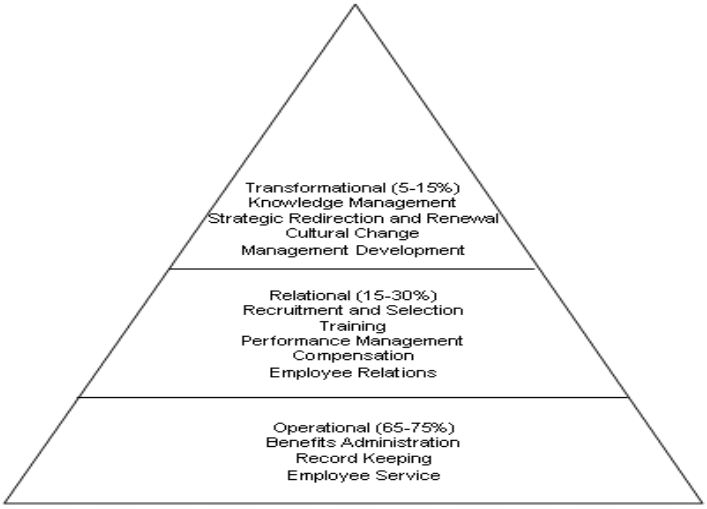
Transactional/Operational / Publishing /Web-presence HRM- As per Lepak and Snell (1998), operational human resource management is concerned with streamlining operations It involves basic administrative HR activities such as capturing of personnel data payroll publishing of information, earlier face-to-face now offered through web-based technology. According to Bondarouk and Ruël, (2007) for operational HRM, the organisations needs to choose whether or not employees will keep their own personal information up to date through an HR website, or whether this will be done manually by administrators. As per Shane (2009) the one-way communication from the organisation to its staff is characteristic of the first form of e-HRM, which involves simply publishing information. Intranets are the primary information delivery medium for this and include generic content such as the organisation's policies and procedures. This is often expanded to include more personalised information such as vacancies. This type of e-HRM is in itself extremely beneficial to organisations as it allows for more cost-effective dissemination of information by cutting down on printing costs. Changes to information can be updated as and when required so that users can access up-to-date, relevant information when needed.

Traditional/Relational/ Automation/ Web-enabled HRM- The relational *HRM*, deals with more advanced HRM activities is viewed as the second, more complex form of e-HRM. The emphasis here is not on administering, but on HR tools that support basic business processes such as recruiting and the selection of new personnel, training, performance management and appraisal, and rewards**.** According to Bondarouk & Ruël, (2007) with relational HRM, there is a choice of whether to conduct more complex HR practices, like recruitment and selection using e-HRM, or to use a more traditional paper-based approach such as newspaper advertisements and paper-based application form. According to Strohmeier, (2007) relational HRM concerns the interaction and networking of the various HRM stakeholders.

As per Lengnick-Hall & Moritz, (2003) relational e-HRM also involves the automation of transactions (internet in place of pen and paper) through the use of intranets and extranets, HR portals, employee self-service and manager self-service, and operates with several application programmes. These technologies facilitate relationships between users of the systems. As per Bondarouk & Ruël, (2007), the emphasis of relational HRM is not on the administration of HR processes, but rather on the manner in which HR tools support basic business processes such as performance management and recruitment and selection.

Transformational /Web-energized HRM- Transformational HRM is the highest-level and the most complex form of HRM. According to Lengnick-Hall & Moritz, (2003), HRM shifts from a transactional to a transformational focus, whereby the human resource functions are relieved of the operational tasks and redirected towards more strategic initiatives. These types of work include: strategic partnering with the business, creating centres of expertise and administration of service centres. According to Bondarouk & Ruël (2007) when using e-HRM for strategic, transformational purposes, "it is possible to create a change-ready workforce through an integrated set of web-based tools that enables the workforce to develop in line with the company's strategic choices".

FIGURE- 1 Traditional Delivery of HR Services

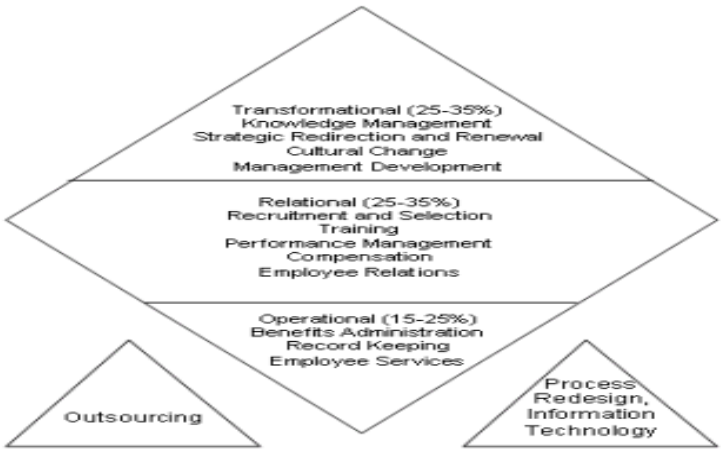


Source-Wright, P., and Dyer, L., (2000), "People in e-business: new challenges, new solutions", *Working paper- Center for Advanced Human Resource Studies*, Cornell University, pp. *00-11.*

The figure 1 and figure 2 shows transition of HRM function in service delivery from traditional to strategic and time devoted in each level of HRM. From the figures it is quite clear as HRM function moves to strategic delivery approach, it devotes less time in operational or primitive level of HR function and maximum time on transformational or highest level. With strategic delivery approach organizations some time reengineer their HR function, opt for outsourcing, ride on electronic platform and in most cases applies all the three options simultaneously.

According to Wright & Dyer (2000).More recently, HR function has had to play a more strategic role in the organization. The only way to achieve this is to relieve much of the burden of transactional human resource activities in order to free up time so that HR can concentrate on traditional transformational HR activities. This is done either by outsourcing some of the human resource function, but what would be more relevant to this study, is to utilize information technology in the form of e-HRM (see Figure -2).

FIGURE 2 Strategic Delivery of HR



Source-Wright, P., and Dyer, L., (2000), "People in e-business: new challenges, new solutions", *Working paper- Center for Advanced Human Resource Studies*, Cornell University, pp. *00-11.*

As per Wright & Dyer (2000), development and implementation of human resource-specific information technology systems is the first step in achieving this. In addition to this, new systems have been developed that allow management and employees to manage much of their own human resource activities, such as leave application and approval, personal data changes etc. Thus, e-HRM systems aid in freeing up time for the HR function so that there can be greater focus on high-value strategic initiatives.

According to Ruël et al. (2004), an important factor to keep in mind, is that in actuality, a combination of these types of e-HRM are utilised. E-HRM development is not a step-by step process in reality. Different levels of e-HRM implementation are not a mutually exclusive activity but some time at the same time all the three levels are being implemented simultaneously. However, the authors comment that establishing a good transactional foundation is an important basis for relational e-HRM, and effective relational e-HRM should be in place for successful transformational e-HRM to be successful. According to Lengnick-Hall & Moritz (2003), while some organisations might take a developmental approach, building up from operational, to relational to transformational e-HRM in a step-by-step manner, other organisations will make more aggressive changes, moving straight from operational e-HRM to transformational, strategic e-HRM. It seems that the first step in successful e-HRM is ensuring that decision-makers buy into the fact that the benefits outweigh the costs. As per Shane (2009), three types of e-HRM are often used simultaneously.

Organizations will have elements from each of the types of e-HRM, but in an ideal world, each stage should be developed incrementally, that is, a strong operational foundation will enable better relational e-HRM, which in turn will be beneficial for meaningful transformational e-HRM

Research Objective

Survey of literature raises some questions and remained unanswered, reveals there is no study or very little empirical study has been done to the related research questions, Present study is part of inquisitiveness of the questions which has been converted into research objectives.

- To evaluate the present level of e-HRM in Indian organizations?
- To examine difference of level of e-HRM between public and private organizations?
- To examine difference of level of e-HRM between manufacturing and service sector?

Research Hypothesis

A) H0- It is hypothesized that there is no difference in mean value of present level of e-HRM and test mean value.

B) H0- It is hypothesized that difference in mean value of level of e-HRM between public and private organization is zero.

C) H0- It is hypothesized that difference in mean value of level of e-HRM between manufacturing and services organization is zero.

Research Methodology

Sample Unit and Sample Size - The study consists of public and private organizations both from manufacturing sector and services sector in equal numbers. The researcher has selected eight organizations, National Thermal Power Corporation, Coal India Ltd, Life Insurance Corporation, State Bank of India, Moser Baer India Ltd, Tata Motors, HCL , ICICI Bank Ltd as sample organizations as these organizations have sound HR practices. Target respondents are supervisors and managers of these organizations. The sample size of the research consists of 307 employees.

Data Collection- Structured questionnaire with 5-point response scale (not at all, very little, to some extent, to great extent, very much) has been used as a research instrument. The statement of questionnaire is listed as.

1. To what extent e-HRM supports HR activities in administration area i.e. salary, personal data administration?

2 To what extent information technology supports time and labor management function in your organization?

3 To what extent HR services earlier offered face-to-face now offered through information technology?

4 To what extent e-HRM supports publishing of HR information?

5 To what extent HR function has web presence?

6 To what extent e-HRM performs operational HR function in your organization?

7 To what extent information technology supports human resource planning (HRP) function in your organization?

8 To what extent information technology supports job design and analysis function in your organization?

9 To what extent information technology supports recruitment function in your organization?

10 To what extent information technology supports selection function in your organization?

11 To what extent information technology supports training and development function in your organization?

12 To what extent information technology supports performance appraisal function in your organization?

13 To what extent information technology supports reward and compensation function in your organization?

14 To what extent HR services earlier offered by pen and paper now offered through information technology?

15 To what extent e-HRM supports automation of HR transactions in your organization?

16 To what extent e-HRM performs relational HR function?

17 To what extent HR services offered through integrated set of web based tools (SAP, ERP) in your organization?

18 To what extent e-HRM supports mutation of HR transactions?

19 To what extent HR functions are delivered electronically in your organization?

20 To what extent e-HRM plays a role in strategic HR task in your organization?

21 To what extent e-HRM performs transformational HR function?

The questionnaires were sent to the employees in soft copy and in some cases questionnaire in hard copy was also provided. Convenient sampling technique was adopted in order to choose the ultimate unit (respondents). Out of 148 questionnaires sent in softcopy, 26 respondents filled the questionnaire i.e. response rate of 17.56%. Rest 74 responses could be collected by seeking response from 159 respondents in hard copy format (total 100 responses). First page of survey dealt with the introduction, purpose of the study, assurance of confidentiality and anonymity. Second page and onwards dealt with profile of respondents and actual survey.

Data Analysis and Interpretation

The statistical techniques were applied using the Statistical Package for the Social Sciences (SPSS) computer program for Windows, version 16.0. Factor analysis has been used as tool to categorize the questionnaire in different groups. One sample t-test had been used to test the hypothesis of A. Paired sample t-test has been used to test hypothesis B and C

TABLE-2 Factor Analysis of E-HRM Attributes

Attributes	Operational	Relational	Transformational
Admin	.805		
Time and labour	.768		
Face-to-face	.722		
Publishing	.636		
Web presence	.596		
Operational	.501		
HRP		.773	
Job design		.751	
Recruitment		.727	
Selection		.686	
Training		.616	
Per. appraisal		.600	
Compensation		.539	
Pen and paper	.	.528	
Transactions	.	.524	
Relational	.	.515	
Integrated set			.743
Mutation	.		.724
Electronically			.692
Strategic			.631
Transformational			.597
Eigen values	9.863	1.671	1.517
Percentage of variance	46.966	7.957	7.223
Cumulative percent	46.966	54.923	62.146
Kaiser-Meyer-Olkin Measure of Sampling Adequacy .903, degree of freedom-210, significance-000, Cranach's Alpha of 0.948 shows questionnaire are reliable.			

Kaiser-Meyer- Olkin (KMO) measure of sampling adequacy (MSA) value of 0.903 reveals that the sample is adequate for conducting factor analysis as any value greater than 0.6 is good for conducting research in social science. The factor analysis executed with principal component analysis using Varimax rotation. Table 2 depicts, the rotated factor matrix comprising all 21 variables, the Eigen values 1 or more than 1 for all extracted factors, the percent of variance and cumulative percent of variance.

Total 3 factors are extracted out of 21 original variables with Eigen values 9.863, 1.671, 1.517.These 3 extracted factors explain 62.146 per cent of variance. It means information is able to economize as more than half of the information is retained to us and only 37 .854 per cent of information is lost. The extracted factors as follows.

Operational- This is the most important factor explaining 46.966 of the total variance and retaining Eigen value of 9.863 and loading range from .501 to .805 . The attributes covered here are publishing of information, web presence, administration area, time and labor, face-to-face, operational HR function. These are basic components of operational e-HRM.

Relational-This factor is concerned with the interaction and networking of the various HRM stakeholders. This factor has total variance of 7.957 and Eigen value of 1.671 and loading range from 0.515 to 0.773. The attributes covered are, human resource planning, job design and analysis, recruitment, selection, training and development, performance appraisal, reward and compensation, relational HR function, pen and paper and automation of HR transactions.

Transformational- The attributes covered are integrated set of web based tools, mutation of HR transactions, HR functions delivery electronically, transformational HR function and role in strategic HR task. These factors have total variance of 7.223 and Eigen value of 1.1571 and loading range from 0.59 to 0.743.

Hypothesis Testing - For testing the hypothesis "It is hypothesized that there is no difference in mean value of present level of e-HRM and test mean value" (hypothesis A), one sample T -test has been used using a hypothised mean value of 3.5, as respondents were asked to use a scale 1-5 in responding the questions. Moreover it is assumed that a mean value less than 3.5 will offer support to the hypothesis A. The aim here is to compare the sample mean with hypothised mean for probability estimation, that the sample mean is different by chance or random occurrence. As SPSS don't have a provision for one tailed t-test so the researcher has converted 2-tailed value in one tailed value by dividing it by 2.

TABLE- 3 One-Sample Tests

Test Value = 3.5	Attributes	Mean	t	Sig.(2-tailed)
Operational Attributes **case-1**	Admin	4.2600	8.190	0.000*
	Time and labour	3.6600	6.086	0.023*
	Face-to-face	4.0000	5.365	0.000*
	Publishing	3.9900	5.056	0.000*
	Web presence	3.8800	4.321	0.000*
	Operational	3.7800	8.219	0.000*
	HRP	3.7400	2.205	0.030*
Relational Attributes **case-2**	Job design	3.4200	-0.692	0.491
	Recruitment	3.8000	2.846	0.005*
	Selection	3.8300	3.249	0.002*
	Training	4.0600	5.527	0.000*
	Per. appraisal	3.9500	4.180	0.000*
	Compensation	3.8000	2.681	0.009*
	Pen and paper	3.8800	3.663	0.000*
	Transactions	3.6700	1.691	0.094*
	Relational	3.6800	1.981	0.050*
Transformational attributes **case-3**	Integrated set	3.6700	1.612	0.110
	Mutation	3.6800	1.811	0.073*
	Electronically	3.7700	2.455	0.016*
	Strategic	3.7800	2.717	0.008*
	Transformational	3.8000	3.146	0.002*

Significance level with*- Null hypothesis rejected or else accepted (Table value of t +1.645, one tailed test, df 99, sig 5%)

Case-1 All the attributes of operational level has low significance values of 0.00 indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected and H1 is accepted. It can be concluded that e-HRM is operational level in Indian organizations.

Case-2 Most of the attributes of relational level has low significance values (less than .05), indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected and H1 is accepted. For attributes transactions, and relational significance level is .094 and .050 respectively for two tailed test. For one tailed test its calculated significance level is .047 and .025 which is

below the .05 and rejects the null hypothesis. In case of attribute job design and analysis significance level is .491 for two tailed test. For one tailed test its calculated significance level is .245 and is much above 0.05, and accepts the null hypothesis. For this attribute there is no difference mean value and assumed test value. So overall null hypothesis is partially rejected and can be concluded that e-HRM is not at relational level for all attributes in Indian organizations.

Case-3 Most of the factors of transformational level has low significance values (less than .05), indicates that there is a significant difference between the test value and the observed means. So the null hypothesis is rejected. For attribute mutation, significance level is .073 for two tailed test. For one tailed test its calculated significance level is .037 which is below .05 and rejects the null hypothesis. In case of attribute integrated set, significance level is .110 for two tailed test. For one tailed test its calculated significance level is .055 and is above 0.05, and accepts the null hypothesis. For this factor there is no difference mean value and assumed value. So overall null hypothesis is partially rejected and can be concluded that e-HRM is not at transformational level for all factors in Indian organizations.

E-HRM Level (public vis-à-vis private)-To test the hypothesis "It is hypothesized that difference in mean value of level of e-HRM between public and private organization is zero" (hypothesis - B) paired sample T test has been used as a statistical tool.

TABLE – 4 Paired Sample Test (PUBLIC VIS-À-VIS PRIVATE)

public vis-à-vis private	**Pair**	**attributes**	**Mean**	**Std. Deviation**	**t**	**Sig. (2-tailed)**
attributes Operational **case-4**	1	Admin	0.0652	1.372	0.322	0.749
	2	Time and labour	-0.173	1.510	-0.781	0.439
	3	Face-to-face	-0.108	1.369	-0.538	0.593
	4	Publishing	-0.065	1.372	-0.322	0.749
	5	Web presence	0.0869	1.244	0.474	0.638
	6	Operational	-0.239	1.551	-1.04	0.302
Relational attributes **case-5**	7	HRP	-0.304	1.774	-1.16	0.251
	8	Job design	-0.217	1.604	-0.919	0.363
	9	Recruitment	0.260	1.718	1.030	0.309
	10	Selection	-0.065	1.481	-0.299	0.767
	11	Training	-0.260	1.625	-1.08	0.282
	12	Per. appraisal	-0.043	1.429	-0.206	0.837
	13	Compensation	-0.108	1.608	-0.458	0.649
	14	Pen and paper	-0.152	1.548	-0.666	0.509
	15	Transactions	-0.173	1.465	-0.805	0.425
	16	Relational	-0.021	1.374	-0.107	0.915
Transformational attributes **case-6**	17	Integrated set	-0.586	1.309	-3.040	0.004*
	18	Mutation	-0.326	1.334	-1.658	0.104
	19	Electronically	-0.391	1.584	-1.675	0.101
	20	Strategic	-0.347	1.580	-1.492	0.143
	21	Transformational	-0.173	1.338	-.881	0.383

Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 99, sig 5%)

Case-4 Null hypothesis-B is accepted for all the attributes of operational e-HRM as the significance level all the factors of operational level is much above 0.05 .So, we can conclude that difference in mean value of level of e-HRM between public and private organizations is zero.

Case-5 Null hypothesis-B is accepted for all the attributes of relational e-HRM as the significance level all the factors of operational level is much above 0.05 .So, we can conclude that the application that difference in mean value of level of e-HRM between public and private organizations is zero.

Case-6 Null hypothesis-B is partially rejected as significance level of the attribute integrated set, is below 0.05. For all other four attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the difference in mean value of level of e-HRM between public and private organization is not zero for all the attributes of transformational e-HRM.

E-HRM Level (manufacturing vis-à-vis services) -To test the hypothesis "It is hypothesized that difference in mean value of level of e-HRM between manufacturing/ mining and services organization is zero" (hypothesis C) paired sample T test has been used as a statistical tool.

TABLE –5 Paired Sample Test (MANUFACTURING VIS-À-VIS SERVICES)

Manufacturing vis-à-vis services	Pair	**Attributes**	**Mean**	**Std. Deviation**	**T**	**Sig. (2-tailed)**
Operational attributes **case-7**	1	Admin	-0.131	1.339	-0.606	0.548
	2	Time and Labour	0.026	1.852	0.088	0.931
	3	Face-to-Face	-0.447	1.266	-2.17	0.036*
	4	Publishing	-0.210	1.211	-1.07	0.291
	5	Web Presence	0.052	1.089	0.298	0.767
	6	Operational	-0.657	1.301	-3.11	0.004*
Relational attributes **case-8**	7	HRP	-0.526	1.623	-1.99	0.047*
	8	Job design	-0.236	1.618	-0.902	0.373
	9	Recruitment	-0.157	1.778	-0.547	0.588
	10	Selection	-0.210	1.544	-0.840	0.406
	11	Training	-0.447	1.427	-1.99	0.048
	12	Per. appraisal	-0.184	1.504	-0.755	0.455
	13	Compensation	-0.421	1.686	-1.53	0.132
	14	Pen and paper	-0.315	1.561	-1.24	0.220
	15	Transactions	-0.421	1.426	-1.82	0.077
	16	Relational	-0.157	1.325	-.734	0.468
Transformational attributes **case-9**	17	Integrated set	-0.315	1.612	-1.207	0.235
	18	Mutation	-0.263	1.287	-1.260	0.216
	19	Electronically	-0.684	1.612	-2.61	0.013*
	20	Strategic	-0.526	1.606	-2.02	0.041*
	21	Transformational	-0.447	1.408	-1.958	.058

Significance level with*- Null hypothesis rejected or else accepted (Table value of f+1.96, df 49, sig 5%)

Case-7 Null hypothesis-C is partially rejected as significance level of two attributes face-to-face and operational is below 0.05. For all other four factors null hypothesis is accepted as significance level is much above .05. So it can be concluded that the application in difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the factors of operational e-HRM.

Case-8 Null hypothesis-C is partially rejected as significance level of two attributes of relational e-HRM, HRP and training and development is below 0.05. For all other eight attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the application in difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the attributes of relational e-HRM.

Case-9 Null hypothesis-C is partially rejected as significance level of two attributes of transformational e-HRM, electronically and strategic is below 0.05. For other three attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the application in difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the attributes of transformational e-HRM.

Conclusion and Recommendations

From factor analysis three factors are extracted out of 21 original variables. These three extracted factors widely discussed in the literature comprises of operational, relational, and transformational.

By examining the data, and testing the hypothesis it can be concluded that e-HRM at operational level but e-HRM is not at relational level and transformational level for all attributes. In other words it can be said that e-HRM is partially at relational and transformational level in Indian organization. In this case Indian organisation have not followed the proper hierarchy of e-HRM implementation rather than relational and transformational level has been implemented simultaneously .Indian organisation have to work on "job design and analysis" attributes of relational e-HRM and "integrated set of web based tools" attributes of transformational e-HRM. The result shows that level of "job design and analysis and analysis" attribute is below the test value, so it can be said it is not fully on electronic platform and in few organization still HR functions uses separate software for each function rather than using integrated set of web based tools.

Research statistics shows that there is no difference in mean values for all attributes of operational and relational e-HRM, but mean value of level of transformational e-HRM between public and private organization is not same for all attributes. Further analysis shows difference in mean value of level of e-HRM between manufacturing and services organization is not zero for all the attributes of operational relational and transformational e-HRM. So it can be concluded there exists a difference in level of e-HRM between manufacturing and services organization

From the result it can be concluded private sector has better mean value for the attribute integrated set , in the similar manner services has better mean value over manufacturing for the attributes face-to-face, operational, selection, electronically and strategic (negative sign of t value). Public sector organizations and manufacturing organization must learn lessons from their counterpart (Private and services), take a cue and harness the benefit of e-HRM and be competitive. Similarly Private organization and services should strive to raise their level.

E-HRM should actually be a deliberate step by Indian organizations to advance in the digital age, by freeing themselves from daily operational, monotonous requirements and ascending to newer level like relational and to highest level, transformational, making it more in tune with the decision making, understanding of

the employees, preparing change ready workforce, knowledge management, employee brand. For successful implementation of e-HRM organization must pay attention to culture of HR professionals, mechanism and service delivery of HR process, technology adopted, roles and responsibilities of individuals performing HR activities, developmental needs, competencies of the work force. For making it successful HR professional has to support at system at every step.

Present research paves the way of further research which can be based on factors responsible for level of e-HRM or ways to improve the level of e-HRM and many more. Research has some limitation as researcher has selected eight organizations so its result cannot be blindly generalized to all other organizations. Contextual analysis is important before implementing the results. The study is based on non- probability sampling. Participants were selected based on judgmental and convenience sampling techniques.

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Title of the paper -E-HRM Attributes and Internal Stakeholder's Satisfaction: A Quantitative Study in Select Indian Organisations".

ABSTRACT

Present time business has lots of stakeholders but internal stakeholder i.e. employees are the most important as they are the deciding factor and determine the direction and level of the business especially in knowledge economy where services are high in demand. Higher satisfaction level of employee doesn't guarantee high level of performance but desirable to remain competitive in business. Some organisations proactively and few with the rapid development of e-commerce and significant rise in virtual, networked organisations has compelled HR professionals to sail in digital world and offer services on electronic platform resulting in emergence of electronic human resource (e-HRM). E-HRM is integration of information and communication technology (ICT) and HR mechanism, content, process to provide services to different stakeholders and simultaneously providing competitive edge to the organisation. There are several e-HRM attributes which determines the satisfaction of employee. To measure the present level of e-HRM attribute, difference in level of e-HRM attributes based on employees demographic variables, and increase in internal stakeholder's satisfaction, questionnaire has been formulated, response sought from operatives, supervisors, and managers of select Indian organisations and one sample t test, one way ANOVA, and regression analysis has been used respectively as an statistical tool of measurement.

Key words-stakeholder, e-commerce, digital, ANOVA, regression

JEL classification- M12, M15, M10,

INTRODUCTION

Workforce, the most important asset of any organization becomes liability if they are not provided prerequisite attribute of satisfaction to align with corporate goals and visions. According to Ghosh (2002), in an organization the most valuable input is the human element. The success or failure of an organization depends to a large extent on the persons who manage and run the organization. In business the greatest asset is the human resource of the enterprise and not the plant, equipment or the big buildings it owns. The committee Van Rijn (2001) concluded that in contemporary times there is a shortage of qualified employees, the employees became at least as important as the customers. The committee suggested that employees should be kept satisfied and motivated and improving the service provided by the HR department is mentioned as a part of the solution. It is therefore expected that the adoption of e-HRM technologies is driven by need for client service improvements.

Empowerment of employees in availing HR services is a one of substantial breakthrough in HRM to navigate it to higher levels. The way HR services offered in an organisation must be easy to access, easy to use and simultaneously useful to use. HR service delivery should facilitate role clarity, internal communication, and must act as a decision support system. Manpower satisfaction level increases if there is flexibility and transparency in HR service delivery.

Traditional HRM is paper intensive, people intensive, time intensive, where e-HRM is use of computer systems, interactive electronic media, and telecommunication networks to carry out the functions of the human resources management department. E- HRM managers always strive to provide a seamless integration of all HRM services with a common goal of internal stakeholder's satisfaction. According to Gowan Mary (2001), e-HRM is a web-based solution that takes advantage of the latest web application technology to deliver an online real-time human resource management solution. According to Pratheepan and Arulrajah (2012), e-HRM is the application of IT for HR practices which enables easy interactions within

employees and employers. It stores information regarding payroll, employee personal data, performance management, training, recruitment and strategic orientation. It decreases the paperwork considerably and allows easy access to large volume of data. The employee can also keep track of his/her achievements without having manual procedures. It can also be used for execution of different HR strategies in an organisation.

Properly managed e-HRM can act as a communication tool which is flexible (24*7), anywhere anyplace, accurate, timely, complete, directed to all appropriate or required recipients, and crafted in a way that's understood by the intended audience. Through e-HRM employees and/or teams may have input into and influence over HR function from high-level strategic decisions to routine day-to-day decisions about how to do their own jobs. Empowerment is about employee participation through increased delegation of responsibility down throughout the organizational chain of command, which is facilitated by e-HRM application. At the same time not providing mundane repetitive tasks in self service mode can be a big drag on the HR function leaving them with little time to do anything else. Instead of HR executives handling everyday routine tasks such as change in address, pay slip, tax deduction, training and checking holiday entitlements, can be handled by the employees themselves or their line managers. E-HRM imbibes a system of transparency and minimizes or eliminates intervention from HR staff, allowing managers and employees to perform HR tasks directly with the self service tools hence inculcating the sense of empowerment.

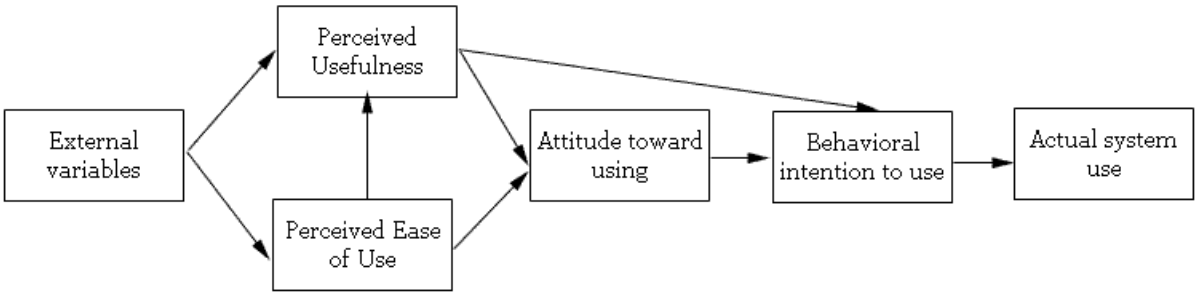
The use of web-based technologies for human resource management practices and policies is maturing within organizational lifecycle and facilitating transparency. It is important for each member to understand their role and role overlapping and ambiguity has to be minimised. The implementation of the e-HRM technology has the consequence that specific HR activities are devolved to managers and employees and thus the implementation of e-HRM technology influences the division of HR responsibilities. The organizations' overall strategy

has an influence on the division of the responsibilities however link provided and channel of communication assigned somehow facilitates division of authority and responsibilities between managers, employees and HR professionals hence role clarity**.**

LITERATURE REVIEW

Figure-1 elaborates the Technology Acceptance Model (TAM) developed by Davis (1989), is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. Perceived usefulness - defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance". Perceived ease-of-use - Davis defined this as "the degree to which a person believes that using a particular system would be free from effort".

Figure: 1 Technology Acceptance Model (TAM)



Source-Davis, F. D. (1989). "Perceived Usefulness, perceived ease of use, and user acceptance of information technology." *MIS Quarterly*, pp. 318-340

According to Maatman, M., (2006), it is expected that when end-user understand the e-HRM goals and the intended effects of the e-HRM technology, it will positively affect the use of the e-HRM technology which is expected to lead to the intended use of the technology.

Venkatesh, et al. (2003), in their study "User acceptance of information technology: toward a unified view" mentions that usefulness is more strongly linked to behaviour intentions of user and actual system use than ease of use.

As per Ruel et al. (2004) the goals that drive parties, stakeholders, and individuals in organisations will set a framework for the real e-HRM applications and approaches to be implemented. Ruta (2005), in his study of implementation of HR employee portal in Italian subsidiary of Hewlett-Packard (HP) has demonstrated that usage of HRIS increased when IT user acceptance principle were integrated with change management principles. IT user acceptance model focused on "what" predicted intentions to use the HR portal, while change management theory focused on "how" intentions to use the HR portal could be influenced.

Voermans and Veldhovern (2007) conducted an empirical study at Philips measuring attitude towards e-HRM using online questionnaire in which 99 managers and 257 employees with Philips electronics (Netherlands) participated. Attitudes towards adoption, using TAM as basis, maps against Ulrich (1997) HR roles, found variables that might link to support for e-HRM. Those with a strategic preference more likely to have a positive attitude to e-HRM, employee champion role preferred more negative, do not find positive correlation between administration role and e-HRM. The preliminary investigation by Yusuf et al. (2011) made on perceived usefulness, perceived ease of use, and attitude towards using e-HRM among 51 HR professionals in Malaysia is illustrated in research paper titled "HR roles and e-HRM: some initial evidence from Malaysia", mentions e-HRM provides the human resource function with the opportunity to create new avenues for contributing to organizational success. Literature review shows that TAM into e-HRM studies has resulted in notions that the use of e-HRM by the targeted employee is highly determined by level of usefulness to HR information technology than easiness to use.

According to Keebler & Rhodes (2002), to improve the service level to clients of the HR department it is important to focus on the experience of the clients requiring service of the HR department. Gupta (2008) stated that the leading solution for e-HRM is System Manager, HR Manager, Time Manager, Payroll Manager, and Report Manager. According to Prasad (2003), the concept of computerized HRIS is derived as an organized method of providing information about human resources, their functioning, external factors relevant to managing human resources. Sacht (2007) observes, web and internet technologies have already given workers direct access to each other, to HR, and to business information with such ease and intelligence that every worker can contribute more directly to business results . More recently, electronic databases, audio and video recordings, interactive tools and multimedia presentations have become available to extend the techniques for capturing and disseminating content. As asserted by Kettley and Reilly (2003), today employees tend to ask for advice rather than administrative assistance. This is the reverse of the situation in the late 90s. Furthermore, the nature of HR departments has changed because of the development of e-HRM. A few years ago businesses tended to have more, but less qualified HR staff whereas today the reverse applies.

Lepak & Snell (1998) stated that HR departments are forced to look for alternative paths for the delivery of HR activities to meet the increasing demands of flexibility and to maintain the role as service provider to managers and employees. As per Keebler & Rhodes (2002), with MSS and ESS, organizations are trying to meet the HRM needs of managers and employees and at the same time support the organizational business objectives. According to Ruta (2005), many of the reporting-type activities, previously performed by HR professionals, can now be performed online by managers and employees. Scott (2008) observes that if one would separate the HR function into two broad components, namely transactional and non-transactional activities, then it is easy to envisage the transactional components being e-

enabled. In most of the non-transactional HR activities, a continuum of e-possibilities exists. The conservative point on the continuum would suggest that no electronic mechanisms should be used to replace "people" activities, while the radical view on the continuum would suggest that technology could replace all direct human interaction with the HR customer resulting in empowerment of internal customers. The first Cedar Crestone Asia Pacific-APAC HR Systems Survey (2008-2009) discovered that the number one business initiative for APAC survey respondents is a focus on metrics and analytics and self service and moving to an HR service centre approach enables organizations to serve more employees with their HR staff.

As per Prabakaran (2012), recently, a second wave of ESS shifted the focus from these purely efficiency based applications towards empowering employees and managers to take more responsibility for their jobs and development. Career planning, skills profiles, learning, objective settings, appraisals and more and more analytics are increasingly popular ESS applications. As per web interface face – employee self service portal / Mystro HR and payroll (2013), empowering employees in their day-to-day functioning requires giving them anytime, anywhere access to basic employee facing processes as well access to information about the people in their teams. In absence of these, employees are left wondering and waste time chasing people and paper.

As per Sanayei and Mirzaei (2008), on their own desktops, line managers nowadays perform appraisals, evaluate employee costs, generate HR reports (turnover, absenteeism), process training requests and oversee competence management. Employees have access to everything they need to change and manage their personal files, plan their development, process financial documents and apply for new jobs. HRM professionals are facing a digital future. As per Yao, et.al (2010), e-HRM facilitates openness and transparency and most of the information is just only far away from one mouse click, it supports individual as well as

group members in making decisions, especially in case of group decision making. E-HRM tools is used in information dissemination, opinion sharing and it facilitates the complete decision mechanism.

In the view of Armstrong (2003), e-HR provides the information required to manage HR processes. These may be core employee database and payroll systems but can be extended to include such systems as recruitment, e-learning, performance management and reward. The system may be web-based, enabling access to remote or online and at any time. The information provided by the e-HR process can be communicated across organisations. Sadagopalan (2004) observes that information systems to support the personnel function have once again taken the record keeping view rather than the decision support view particularly in the Indian context, it is limited to creating large databases often of questionable value and accuracy. Slowly this trend is changing at least in more enlightened companies

According to Mittal and Kumar (2006), with ICT, desired data is being replicated online between various information centres from time to time. As a result the consolidated information is available to the management for effective decision making instantaneously and they need not to wait for collection, compilation and consolidation of information, which used to take lot of time earlier As per Yao, et al. (2010), if e-HRM implemented and used correctly, can improve the quality of group decision making significantly by minimizing the negative effects of group decision-making and by maximizing the benefits of group collaboration and decision-making. E-HRM uses different information communication tools for providing HR services; these tools are more concerned with providing and compiling relevant data and information. These tool acts as an information support system.

As per Awwal (2009), ICT enables plethora of criteria and alternatives for any decision, extends the decision, historic data keeps on updated with time so that decision environment

remains current. Segregation of data through applications and adequacy of hardware to meet user's required performance criteria today across wide area network is providing new dimensions to decision making process. According to Mittal and Kumar (2006), e-HRM minimises the lead time and saving of resources both in terms of manpower, paper movement and cost on communication and operation. System has helped in early consolidation of accounts particularly in case of employee's expenses, salary, income tax returns and provident fund etc.

According to Keebler & Rhodes (2002) the e-HRM technology should not only be designed to make the HR processes as efficient and cheap as possible, but the e-HRM technology should be made useable too, to increase the service experience of the managers and employees. In this way a client service improvement of the HR system can be achieved. According to Watson Wyatt's (2000) survey, web technology is the predominant method for delivering HR-related services to employees and managers, and offers significant opportunities to improve communication, knowledge sharing and HR delivery systems. E-HRM also involves many more stakeholders besides personnel in the HR department and the business and also includes job applicants and employees from all levels. Kettley and Reiley (2003) states that a computerized human resource information system consists of a fully integrated, organisation wide network of HR-related data, information, services, databases, tools and transactions .

As per Sacht (2007), e-HRM tools are not yet available everywhere in the developing world, they are spreading rapidly and present a unique opportunity for developing countries to benefit most from the technological revolution now unfolding: low-cost telecommunications systems can help countries to leapfrog ahead through distance education, distance health services, and much better access to markets and private sector partners abroad.

RESEARCH OBJECTIVE AND METHODOLOGY

The literature review reveals very little empirical study exclusively on e-HRM attributes improving stakeholder satisfaction. The limited research that has been undertaken is mostly based on western countries not from emerging countries like India which is all together different from western countries, so there is a possibility of different result. The present research in its endeavour identifies research gap and formulates objectives.

- To assess the present level of e-HRM attribute in context to internal stakeholders satisfaction?
- To analyse the difference in level of e-HRM attributes based on employees demographic variables.
- To assess the impact of E-HRM attributes in Indian organizations in terms of increase in internal stakeholder's satisfaction.

Research Hypothesis

H0 A)-It is hypothesized that the present level of e-HRM attributes in context to internal stakeholder's satisfaction is at mean (test) value.

H0 B)-It is hypothesized that there is no difference in e-HRM attribute level based on employees demographic variables.

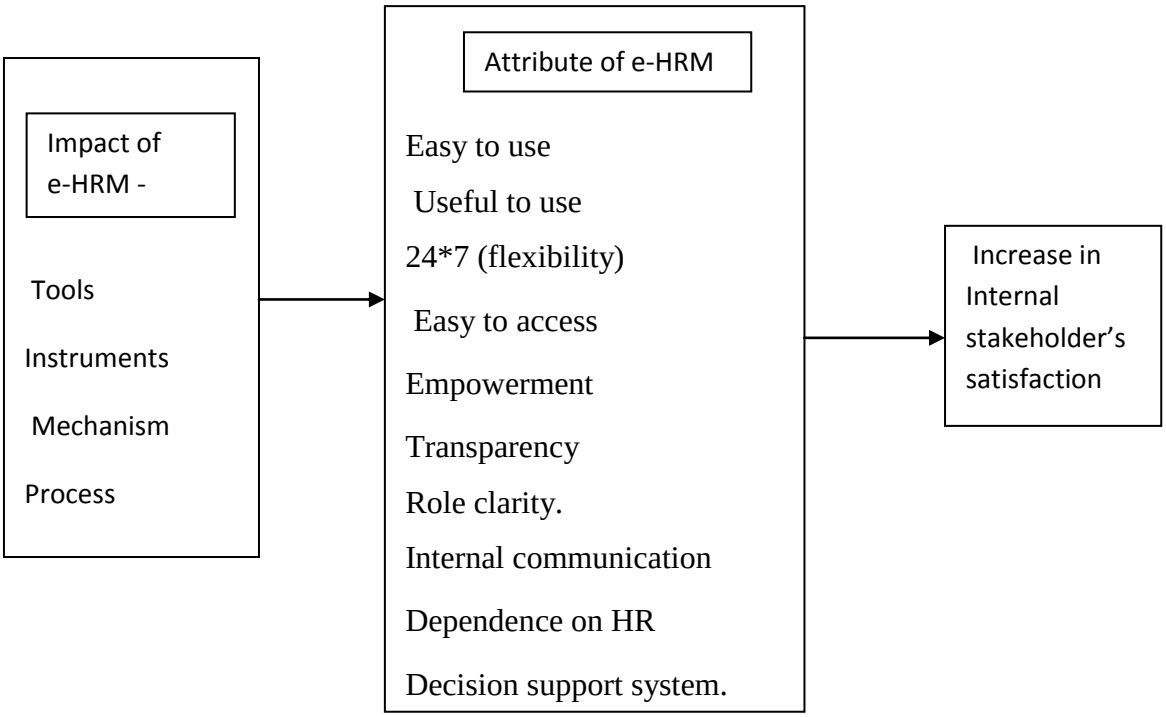
H0 C) - It is hypothesized that e-HRM attributes have not significant impact on internal stakeholder satisfaction.

Research Model

Research model developed on literature survey envisage that HRM function delivered in electronic form supported by web based, wireless, multimedia, software and hardware tools and instruments generates mechanism and process resulting in e-HRM attributes or power of HR function, leading to increase in internal stakeholder satisfaction as final output. From

literature review total ten e-HRM attribute has been identified and model has been portrayed taking increase in internal stakeholder satisfaction as a dependent variable.

Figure: 2 Internal stake holder's satisfaction model (Portrayed)



Source – Literature review by scholar

Sample unit and Sample Size: The researcher has selected eight Indian organizations as sample organisations and it consists of public and private organizations both from manufacturing **/**mining sector and services sector in equal numbers.

Table 1: Nature of business

sample organisation	Manufacturing/Mining	Services

Public	1.Power generator 2.Mining	3. Bank 4. Insurance
Private	5. Automobile manufacturer 6. Tech-manufacturing company	7. Bank 8. Software developer

Source –Formulated by scholar

Table-1 depicts the nature of business of sample organisations. These blue chip organisations are having sound HR practices and market leader in that particular segment. Since primary data is being used for this study, so identity of the organisations has been not disclosed. Target respondents are operative, supervisors and managers of these organizations. The sample size of the research consists of 400 employees. The time period of the study (data collected) is from April 2013 to August 2013.

Data Collection: Structured questionnaire with 5-point response scale (not at all, very little, to some extent, to great extent, very much) has been used as a research instrument. The statement of questionnaire is as follows.

- To what extent do you consider e-HRM is easy to use?
- To what extent do you consider e-HRM is useful to use?
- To what extent do you consider e-HRM supports 24*7 (flexibility) service deliveries?
- To what extent do you consider e-HRM is easy to access?
- To what extent do you consider e-HRM empowers personnel?
- To what extent do you consider e-HRM improves transparency?
- To what extent do you consider e-HRM facilitates role clarity?
- To what extent do you consider e-HRM improves internal communication?

- To what extent do you consider e-HRM reduces dependence on HR professional?
- To what extent do you consider e-HRM acts as decision support system (DSS) in taking timelier and better decision?
- To what extent e-HRM increases your satisfaction as an employee?

These questionnaires were sent on line to the employees and in some cases questionnaire in hard copy was also provided. Out of 160 questionnaire send online, 28 respondents filled the questionnaire and submitted i.e. response rate of 17.5% and out of 240 questionnaire provided to respondents in hard copy format 116 responses were collected i.e. response rate of 48.3% hence in total 144 responses out of a sample size of 400 i.e. overall response rate of 36%. First page of survey dealt with the introduction, purpose of the study, assurance of confidentiality and anonymity. Second page and onwards dealt with profile of respondents and actual survey.

Data analysis and interpretation: The statistical techniques were applied using the Statistical Package for the Social Sciences (SPSS) 16.0. One sample t-test had been used to test the hypothesis A, one way ANNOVA has been used to test hypothesis B, regression analysis has been develop a model and test hypothesis C.

TABLE 2: One-Sample t Test of e-HRM attributes

Attributes	Test Value = 3.5		Degree of freedom = 143
	Mean	t	Sig. (2-tailed)
Easy to use	4.020	6.741	.000*
Useful to use	4.159	9.224	.000*
24*7 (flexibility)	3.916	4.712	.000*
Easy to access	4.027	6.804	.000*
Empowers personnel	3.923	5.028	.000*

Improves transparency	4.118	8.344	.000*
Role clarity	4.083	8.169	.000*
Internal communication	3.951	6.158	.000*
Reduces HR dependence	3.826	4.036	.000*
Decision support system	3.881	4.826	.000*
Improves satisfaction	3.9583	6.79	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t +1.645, one tailed test, df 143, sig 5%)

Table 2 shows all the attributes of e-HRM has low significance values of 0.00, indicates that there is a significant difference between the test value and the observed means. So the null hypothesis (H0) A is rejected. With Positive t value it can be concluded that e-HRM attributes of employee in context to e-HRM is positive.

TABLE 3: One-way ANOVA of demographic variable-Qualification

Att#	Qual#	N	Mean	f	Sig.	Att#	Qual#	N	Mean	f	Sig#
Easy to use	10	2	3.500	4.41	.005*	Role clarity	**10**	2	4.500	1.24	.298
	10+2	15	3.600				**10+2**	15	3.800		
	Degree	62	3.838				**Degree**	62	4.016		
	P. G.	65	4.307				**P. G.**	65	4.200		
Useful to use	10	2	4.000	2.07	.108	Internal	**10**	2	4.500	1.05	.375
	10+2	15	4.000				**10+2**	15	3.933		

	Degree	62	4.000				**Degree**	62	3.822		
	P. G.	65	4.353				**P. G.**	65	4.061		
24*7(flexibility)	10	2	4.500	1.38	.253	HR dependence	**10**	2	4.000	.985	.402
	10+2	15	3.600				**10+2**	15	3.600		
	Degree	62	3.806				**Degree**	62	3.725		
	P. G.	65	4.076				**P. G.**	65	3.969		
Easy to Access	10	2	4.000	1.38	.252	Decision support system	**10**	2	4.000	.497	.685
	10+2	15	3.600				**10+2**	15	3.600		
	Degree	62	4.016				**Degree**	62	3.903		
	P. G.	65	4.138				**P. G.**	65	3.923		
Empowerment	10	2	3.500	1.99	.118	Satisfaction	10	2	3.500	.494	.687
	10+2	15	3.466				10+2	15	3.866		
	Degree	62	3.854				Degree	62	3.919		
	P. G.	65	4.107				P. G.	65	4.030		
Transparency	10	2	4.500	1.25	.294	(Att# Attributes, Qual# Qualification) Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 143, sig 5%)					
	10+2	15	3.733								
	Degree	62	4.112								

	P. G.	65	4.200			

Source – Data analysis by scholar

Null hypothesis (H0) B is accepted for the most of attribute as the significance level is above .05(see table-3) but null hypothesis is rejected for the attribute "easy to use" as the significance level is .005(see table-3) which is much below the assumed significance level of F at 0.05, So there is significant difference in attribute "easy to use". Hence it can be concluded for demographic variable "qualification" null hypothesis is partially rejected.

TABLE 4: One -way ANOVA of demographic variable -Position

At#	Position	N	Mean	f	Sig	At#	Position	N	Mean	f	Sig
Easy to use	Operative	25	3.560	3.89	.023*	Role clarity	Operative	25	4.040	.159	.853
	Supervisor	46	4.108				Supervisor	46	4.043		
	Manager	73	4.123				Manager	73	4.123		
Useful to use	Operative	25	4.000	.521	.595	communication	Operative	25	3.880	1.082	.342
	Supervisor	46	4.195				Supervisor	46	4.108		
	Manager	73	4.191				Manager	73	3.876		
24*7(flexibility)	Operative	25	3.480	1.95	.044*	HR dependence	Operative	25	3.840	.184	.832
	Supervisor	46	3.978				Supervisor	46	3.891		
	Manager	73	4.027				Manager	73	3.780		
Easy to	Operative	25	3.560	4.01	.020*	DSS.	Operative	25	3.800	.220	.803
	Supervisor	46	4.152				Supervisor	46	3.847		

	Manager	73	4.109				Manager	73	3.931		
empowerment	Operative	25	3.400	4.36	.014*	Satisfaction	Operative	25	3.800	.646	.526
	Supervisor	46	3.978				Supervisor	46	3.956		
	Manager	73	4.068				Manager	73	4.013		
Transparency	Operative	25	4.000	.549	.579	(At# Attribute) Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 143, sig 5%)					
	Supervisor	46	4.065								
	Manager	73	4.191								

Source – Data analysis by scholar

Null hypothesis (H0) B is accepted for the attribute like "useful to use", "transparency" , "role clarity" "communication", "dependency", "DSS (Decision support system)" and "satisfaction" as the significance level is much above .05but null hypothesis is rejected for the attribute "easy to use", "24*7 (flexibility)" , "easy to access", "empowerment" as the significance level is below the assumed significance level of F at 0.05 (see table-4). So, there is significant difference in attribute "easy to use", "24*7 (flexibility)", "easy to access", "empowerment". Hence it can concluded for demographic variable "Position" null hypothesis is partially rejected.

TABLE 5: One-way ANOVA of demographic variable -Area

Att#	Area	N	Mean	F	Sig.	Att#	Area	N	Mean	f	Sig.
Easy to use	Mktg#	13	4.615	1.54	.183	Role clarity	Mktg#	13	4.308	.485	.787
	HR	13	3.846				HR	13	4.231		
	IT	16	3.750				IT	16	3.938		
	Finance	20	3.900				Finance	20	4.000		
	Oper#	61	4.032				Oper#	61	4.033		
	Others	21	4.047				Others	21	4.191		
Useful to use	Mktg#	13	4.384	1.16	.334	Internal communication	Mktg#	13	4.308	2.08	.048*
	HR	13	4.154				HR	13	4.308		
	IT	16	3.937				IT	16	3.563		
	Finance	20	3.850				Finance	20	3.600		
	Oper#	61	4.279				Oper#	61	3.984		
	Others	21	4.143				Others	21	4.048		
24*7 (flexibility)	Mktg#	13	4.231	1.24	.293	HR dependence	Mktg#	13	3.923	1.45	.211
	HR	13	4.000				HR	13	3.846		
	IT	16	3.563				IT	16	3.438		

	Finance	20	4.100				Finance	20	3.500	
	Oper#	61	3.771				Oper#	61	3.9180	
	Others	21	4.191				Others	21	4.0952	
Easy to Access	Mktg#	13	4.539	1.92	.094	Decision support system (DSS)	Mktg#	13	4.1538	.819	.538
	HR	13	3.923				HR	13	3.8462		
	IT	16	3.750				IT	16	3.5000		
	Finance	20	4.100				Finance	20	3.9000		
	Oper#	61	3.885				Oper#	61	3.9508		
	Others	21	4.333				Others	21	3.8095		
Empowerment	Mktg#	13	4.154	.701	.624	Satisfaction	Mktg#	13	4.1538	.744	.592
	HR	13	4.231				HR	13	4.2308		
	IT	16	3.813				IT	16	3.8125		
	Finance	20	3.700				Finance	20	3.9500		
	Oper#	61	3.869				Oper#	61	3.8689		
	Others	21	4.048				Others	21	4.0476		
Tran	Mktg#	13	4.000	1.33	.256	(Att#- Attribute Mktg# Marketing Oper#					

	HR	13	4.385			Production / Operation) Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 143, sig 5%)
	IT	16	3.875			
	Finance	20	4.000			
	Oper#	61	4.066			
	Others	21	4.476			

Source – Data analysis by scholar

Null hypothesis (H0) B is accepted for the most of attribute as the significance level is much above .05 but null hypothesis is rejected for the attribute" communication" as the significance level is .048(see table-5) which is below the assumed significance level of F at 0.05, So there is significant difference in attribute "communication". Hence it can conclude for demographic variable "Functional area" null hypothesis is partially rejected.

TABLE 6: One-way ANOVA of demographic variable -Experience

Att#	Exp#	N	Mean	f	Sig	Att#	Exp#	N	Mean	f	Sigf
Easy to use	**1-5**	51	3.960	.235	.918	Role clarity	**1-5**	51	3.882	1.252	.292
	5-10	21	3.952				**5-10**	21	3.857		
	10-15	21	4.095				**10-15**	21	4.047		
	15- 20	23	4.000				**15- 20**	23	4.130		
	> **20**	28	4.142				> **20**	28	4.607		
Usef	**1-5**	51	4.176	.379	.823	Inter	**1-5**	51	3.902	1.252	.292

	5-10	21	4.000				**5-10**	21	3.904		
	10-15	21	4.190				**10-15**	21	3.714		
	15- 20	23	4.087				**15- 20**	23	3.956		
	> 20	28	4.285				**> 20**	28	4.250		
24*7 (flexibility)	**1-5**	51	3.980	1.97	.102	HR dependence	**1-5**	51	4.019	1.285	.279
	5-10	21	3.619				**5-10**	21	3.571		
	10-15	21	4.142				**10-15**	21	3.571		
	15- 20	23	3.521				**15- 20**	23	3.782		
	> 20	28	4.178				**> 20**	28	3.892		
Easy to Access	**1-5**	51	3.960	1.22	.307	Decision support system (DSS)	**1-5**	51	3.725	.956	.434
	5-10	21	3.857				**5-10**	21	4.142		
	10-15	21	4.047				**10-15**	21	3.809		
	15- 20	23	3.913				**15- 20**	23	3.869		
	> 20	28	4.357				**> 20**	28	4.035		
Empowerment	**1-5**	51	3.803	.765	.550	Satisfaction	**1-5**	51	3.862	1.010	.405
	5-10	21	4.000				**5-10**	21	4.000		
	10-15	21	3.952				**10-15**	21	3.761		

	15- 20	23	3.782				**15- 20**	23	4.087		
	> 20	28	4.178				**> 20**	28	4.142		
Transparency	**1-5**	51	4.019	2.78	.029*	(Att#-Attribute Exp# Experience) Significance level with*- Null hypothesis rejected or else accepted (Table value of f +1.96, df 143, sig 5%)					
	5-10	21	3.857								
	10-15	21	4.190								
	15- 20	23	3.956								
	> 20	28	4.571								

Source – Data analysis by scholar

Null hypothesis (H0) B is accepted for the most of attribute as the significance level is much above .05 but null is rejected for the attribute "communication" as the significance level is .048 which is below the assumed significance level of F at 0.05(see table-6), so there is significant difference in e-HRM satisfaction level of employees based on attribute "transparency". Hence it can conclude for demographic variable "Experience" null hypothesis is partially rejected.

TABLE 7: One-way ANOVA: of demographic variable -Gender

Att#	Gen#	N	Mean	f	Sig	Att#	Gen#	N	Mean	f	Sig
Easy to use	M	127	4.000	.541	.463	Role clarity	M	127	4.102	.529	.468
	F	17	4.176				F	17	3.941		
Useful to use	M	127	4.181	.666	.416	Internal	M	127	3.952	.003	.960
	F	17	4.000				F	17	3.941		

24*7	M	127	3.937	.394	.531	HR	M	127	3.803	.615	.434
	F	17	3.764				F	17	4.000		
Access	M	127	4.015	.179	.673	DSS	M	127	3.889	.072	.788
	F	17	4.117				F	17	3.823		
Empowers	M	127	3.913	.109	.741	Satisfaction	M	127	3.960	.009	.926
	F	17	4.000				F	17	3.941		
Transparency	M	127	4.102	.334	.564		(Att#- Attribute, Gen#- Gender) Significance level with*- Null hypothesis rejected or else accepted				
	F	17	4.235								

Source – Data analysis by scholar (Table value of f +1.96, df 143, sig 5%)

Null hypothesis (H0) B is accepted for all the attributes as the significance level is much above .05(see table-7), so null hypothesis is accepted. Hence it can be concluded there is no significant difference in e-HRM attribute when "Gender" is taken as a demographic variable.

TABLE 8: One-way ANOVA of demographic variable -Age

Att#	Age	N	Mean	F	Sig	Att#	Age.	N	Mean	F	Sig
Easy to use	20-30	52	3.903	.582	.628	Role clarity	20-30	52	3.903	3.384	.020*
	30-40	48	4.083				30-40	48	4.083		
	40-50	21	4.190				40-50	21	4.190		
	50-60	23	4.000				50-60	23	4.000		
Us	20-30	52	4.096	.210	.889	Co	20-30	52	3.769	1.365	.256

	30-40	48	4.208				30-40	48	4.020		
	40-50	21	4.238				40-50	21	4.000		
	50-60	23	4.130				50-60	23	4.173		
24*7 (flexibility)	20-30	52	3.942	1.189	.316	HR Dependence	20-30	52	3.769	.171	.916
	30-40	48	3.708				30-40	48	4.020		
	40-50	21	4.047				40-50	21	4.000		
	50-60	23	4.173				50-60	23	4.173		
Easy to Access	20-30	52	3.846	2.589	.055	DSS	20-30	52	3.769	.508	.677
	30-40	48	4.041				30-40	48	3.937		
	40-50	21	3.952				40-50	21	4.047		
	50-60	23	4.478				50-60	23	3.869		
Empowerment	20-30	52	3.788	.563	.640	Satisfaction	20-30	52	3.846	1.304	.276
	30-40	48	3.979				30-40	48	3.916		
	40-50	21	4.095				40-50	21	4.238		
	50-60	23	3.956				50-60	23	4.043		
Transparency	20-30	52	4.019	1.957	.123	(Att#- Attribute) Significance level with*- Null hypothesis rejected or else accepted. (Table value of f +1.96, df 143, sig 5%)					
	30-40	48	4.041								
	40-50	21	4.095								
	50-60	23	4.521								

Source – Data analysis by scholar

Null hypothesis (H0) B is accepted for the most of attribute as the significance level is much above .05 but null hypothesis is rejected for the attribute "role clarity" as the significance level is .020 (see table-8), which is below the assumed significance level of F at 0.05, so there

is significant difference in e-HRM satisfaction level of employees based on attribute "role clarity". Hence it can be conclude for demographic variable "Age" null hypothesis is partially rejected.

TABLE 9: Regression Coefficient

(Dependent Variable: increase in satisfaction level)

Attributes	Unstandardized Coefficients		t	Sig.
	B	Beta		
Constant	.518		1.866	.064
Easy to use	.030	.035	.419	.676
Useful to use	-.015	-.016	-.198	.843
24*7 (flexibility)	.094	.120	1.973	.042*
Easy to access	-.062	-.071	-.954	.342
Empowers personnel	.293	.366	4.415	.000*
Improves transparency	-.074	-.081	-1.023	.308
Role clarity	.128	.136	1.971	.043*
Internal communication	.048	.052	.764	.446
Reduces dependence	.156	.187	2.737	.007*
Decision support system	.288	.337	5.453	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t +1.96, df 143, sig 5%)

Table – 9 depicts attribute "Easy to use", "Useful to use", "Easy to access", "Improves transparency", "Internal communication" is not statistically significant and doesn't fit in regression model. Based on this table the estimated model e-HRM attributes which increases significant satisfaction level is .518+.293 (Empowers personnel) +.288(Decision support

system) + .156 (Reduces dependence) + .128 (Role clarity) + .094 (24*7 (flexibility)). It can be said that 50% of e-HRM attributes has significant positive impact on internal stakeholder's satisfaction, hence null hypothesis (H0) C is partially rejected.

CONCLUSION AND RECOMMENDATIONS

Result shows that present level of e-HRM attributes is above test value; hence, it becomes evident that in electronic form of HRM all the characteristics or attributes are present in Indian organization.

For demographic variable "Gender" there is no significant difference in e-HRM attribute but in case of demographic variable "qualification" there is significant difference in attribute "easy to use". It is obvious higher the education level easier to use e-HRM. Proper training and awareness programme should be conducted specially for less qualified employee. For demographic variable "position", there is significant difference in level of attribute "easy to use", "24*7 (flexibility)", "easy to access" and "empowerment". Sometime due to organizational reasons additional links and authority is provided to those who are higher in hierarchy. Every possible attempt should be made to minimize so that all the employees should be at par.

For demographic variable "functional area" there is significant difference in attribute "communication" and in case of demographic variable "experience" there is significant difference in attribute "transparency". For demographic variable "age" there is significant difference in attribute "role clarity".

After analysis only five attribute or independent variables (Empowers personnel, Decision support system, Reduces dependence, Role clarity, 24*7 – flexibility) fits in regression model and shows a significant cause and effect relationship but surprisingly independent variables like Easy to use, Useful to use Easy to access, Improves transparency, and Internal

communication were omitted as per regression analysis. These variables were not good predictor for dependent variable increase in satisfaction level. It is obvious that each attribute of e-HRM has not same impact. Out of ten attributes five have significant impact on internal stakeholder's satisfaction. Therefore it is recommended to architects of e-HRM, while formulating the framework of e-HRM and developing hardware and software, these attributes should not only be inculcated but also there should be some special provisions to enhance these. Independent variable which has been omitted in the model may be due to some lacunae in delivery which has got to be verified and accordingly corrected. Some time due to faulty selection of software, hardware and lack of training to end user only aggravates the situation. Organizations should take periodic review and feedback from end user and incorporate the suggestions in the system.

Managerial Implications

It is evident from the results, e-HRM has significant impact on internal stakeholder satisfaction and there is always chance of further increase in availing e- HRM services in digital platform and organization may further dehumanize the HR function and there will see change in thinking of line managers regarding HR department. HR function s likely to be more process, IT oriented and lacking human touch, posing a big challenge for HR as a function. HR managers will show more willingness in acquiring hard IT skill rather than gaining soft man management skill. Sometime to safeguard their interest and presence, HR managers may put hindrance in digitization of HRM function. Further all the HR issues cannot be mechanized and has to be resolved with case to case merit where HR managers have to take a leaf out of their cap and look beyond electronic solutions.

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ANNEXTURE-1

RESEARCH INSTRUMENT (QUESTIONNAIRE)

Questionnaire Survey on

IMPACT OF E-HRM: A STUDY IN SELECT INDIAN ORGANIZATIONS

I am a research scholar (Pursuing Ph.D) at Lovely Faculty of Business and Arts, School of Business Administration, Lovely Professional University, Phagwara, Punjab. This survey is a part of my academic research that examines the impact of **electronic human resource management** (e-HRM) on Indian organizations. In simple term impact of information and communication technology (ICT) on human resource management (HRM) function which affects organization's outcomes. The study will help human resource management (HRM) function to serve organization effectively and efficiently. Please read carefully all the questions before responding and follow the instruction given for each part. Your response will be kept confidential, anonymous and its use will be limited to this study.

Thanks for cooperation & participation.

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E-mail-sinhachandra99@gmail.com,Bhagawan.40900129@lpu.in

Section-1

For multiple choices, put a tick mark (√) on most suitable option.

1. Details of Respondent

1.01 Name of the organization :			
1.02 Address of the organisation:			
1.03 Qualification	**Matric/ ITI (10)----------1 Intermediate/ Diploma(10+2)-------- 2** **Graduate/Degree-------3 Postgraduate----------4** **Others----------5**		
1.04 Position:	**Operative(Junior)----------1 Manager (executive)----------3** **Supervisor(Middle)----------2 Others----------4**		
1.05Functional area:	**Marketing------1 Human resource----------2 Information technology----------3** **Finance---------4 Production/ Operations ----------5 Others----------6**		
1.06 Are you a trade union official?	**Yes----------1 No----------2**		
1.07 Experience in present organization:	**1-5 yrs ----------1 5-10 yrs ----------2 10-15 yrs ----------3** **15- 20 yrs ----------4 20 yrs & above----------5**		
1.08 Gender:	**Male.....1** **Female.....2**	**1.09 Age:**	**20-30 yrs.....1 30-40 yrs .....2** **40-50 yrs.....3 50-60 yrs .....4** **60 yrs & above.....5**

	Section-2 ***E-HRM INSTRUMENTS/ TOOLS*** ***This section of questionnaire deals with different e-HRM Tools/ Instruments in practice in various organizations. E-HRM tools provide a variety of automated HR activities that enhance the HR function with flexibility and ease of use. For better understanding e-HRM Tools/ Instruments are briefly explained. Kindly put a tick mark (√) on most suitable option.***						
S. No	***Response rating scale-*** **Not at all-1 Very little -2 To some extent-3 To great extent-4 Very much-5**	1	2	3	4	5	
2.01	To what extent Interactive Voice Response (IVR) is used as an instrument for performing HR activities in your organization?						

	(***Interactive Voice Response (IVR) Systems***- IVR allows employees to get work-related information from company's computer system via a telephone keypad or by use of voice)					
2.02	To what extent HR Intranet is used as an instrument for performing HR activities in your organization? ***(HR Intranet Applications (HRIA)*** - Private computer network that provides employees with direct access to HR-related information and link to perform routine task)					
2.03	To what extent Employee / Manager Self Service (ESS/ MSS) is used as an instrument for performing HR activities in your organization? (***Employee / Manager Self-service (ESS/ MSS) HR Applications*** - Software-supported set of HR transactions that can be performed without direct involvement of HR staff)					
2.04	To what extent HR Extranet is used as an instrument for performing HR activities in your organization? (***HR Extranet Applications (HREA***) - Private computer network that links the information system of client-firms to external vendors delivering co-sourced or outsourced HR service.)					
2.05	To what extent HR Portal is used as an instrument for performing HR activities in your organization? (***HR Portal Applications (HRPA***) - Website interface that offers a personalized unified access point to all information sources, tools, and systems individual needs to effectively consume or deliver HR services)					
2.06	To what extent HR Functional Application (HRFA) software are used as an instrument for performing HR activities in your organization. (***HR Functional Applications (HRFA)*** – Specialized or separate HR software for every HRM functions.)					
2.07	To what extent Integrated HRM Suite Applications (ISA) software is used as an instrument for performing HR activities in your organization? (***Integrated HR Software Suite Applications (ISA)*** – Multiple HR software applications bundled together as a package)					

	Section-3 ***STAKEHOLDER'S SATISFACTION*** This section of questionnaire deals with, levels to which e-HRM satisfy all internal stakeholder of the organization by its service delivery. Kindly put a tick mark (√) on most suitable option.					
S. No	***Response rating scale-*** **Not at all-1** **Very little -2** **To some extent-3** **To great extent-4** **Very much-5**	1	2	3	4	5
3.01	To what extent do you consider e-HRM is easy to use?					
3.02	To what extent do you consider e-HRM is useful to use?					

3.03	To what extent do you consider e-HRM supports 24*7 (flexibility) service deliveries?					
3.04	To what extent do you consider e-HRM is easy to access?					
3.05	To what extent do you consider e-HRM empowers personnel?					
3.06	To what extent do you consider e-HRM improves transparency?					
3.07	To what extent do you consider e-HRM facilitates role clarity?					
3.08	To what extent do you consider e-HRM improves internal communication?					
3.09	To what extent do you consider e-HRM reduces dependence on HR professional?					
3.10	To what extent do you consider e-HRM acts as decision support system (DSS) in taking timelier and better decision?					
3.11	To what extent e-HRM increases satisfaction as an employee.					

	Section-4 ***FORM / LEVEL OF E-HRM*** ***This section of questionnaire deals with present level/form of e-HRM prevalent in your organization. Three identified level/form of e-HRM are operational (Transactional), relational (traditional) and transformational. For the operational type of e-HRM, HRM activities that traditionally offered face-to-face, now offered through internet. (e.g. salary, time office, personal data administration etc). For relational e-HRM, most of HRM functions have a support of internet technology rather using pen and paper. This involves automation of transactions (e.g. recruitment, training, appraisal etc). Transformational e-HRM creates a change-ready workforce through an integrated set of web-based tools that enables the workforce to develop in line with the company's strategic choices. (e.g. knowledge management, competence management). Kindly put a tick mark (√) on most suitable option***					
S. No	***Response rating scale-*** **Not at all-1** **Very little -2** **To some extent-3** **To great extent-4** **Very much-5**	1	2	3	4	5
4.01	To what extent e-HRM supports HR activities in administration area i.e. salary, personal data administration					
4.02	To what extent information technology supports time and labor management function in your organization?					
4.03	To what extent HR services earlier offered face-to-face now offered through information technology?					
4.04	To what extent e-HRM supports publishing of HR information?					
4.05	To what extent HR function has web presence?					

4.06	To what extent e-HRM performs transactional HR function in your organization?					
4.07	To what extent information technology supports human resource planning (HRP) function in your organization?					
4.08	To what extent information technology supports job design and analysis function in your organization?					
4.09	To what extent information technology supports recruitment function in your organization?					
4.10	To what extent information technology supports selection function in your organization?					
4.11	To what extent information technology supports training and development function in your organization?					
4.12	To what extent information technology supports performance appraisal function in your organization?					
4.13	To what extent information technology supports reward and compensation function in your organization?					
4.14	To what extent HR services earlier offered by pen and paper now offered through information technology?					
4.15	To what extent e-HRM supports automation of HR transactions in your organization?					
4.16	To what extent e-HRM performs traditional HR function?					
4.17	To what extent HR services offered through integrated set of web based tools (SAP, ERP) in your organization?					
4.18	To what extent e-HRM supports mutation of HR transactions?					
4.19	To what extent HR functions are delivered electronically in your organization?					
4.20	To what extent e-HRM plays a role in strategic HR task in your organization?					
4.21	To what extent e-HRM acts as centres of expertise?					

	Section-5 ***STRATEGIC CAPABILITY*** ***This section of questionnaire deals with the level to which e-HRM facilitates HR function integration (alignment) with business strategy. Kindly put a tick mark (√) on most suitable option.***					
S. No	***Response rating scale-*** **Not at all-1** **Very little -2** **To some extent-3** **To great extent-4** **Very much-5**	1	2	3	4	5
5.01	To what extent e-HRM standardizes its service delivery to different					

	departments, business units in your organization?					
5.02	To what extent e-HRM reduces administrative burden of HR professional in your organization?					
5.03	To what extent e-HRM improves the employer brand of your organization?					
5.04	To what extent e-HRM creates ready to change workforce?					
5.05	To what extent e-HRM increases competence of employee of your organization?					
5.06	To what extent e-HRM supports knowledge management in your organization?					
5.07	To what extent e-HRM aligns HR policies/ practices with business strategy of your organization?					
5.08	To what extent e-HRM increases strategic capability (competitive edge) of your organization.					

	Section-6 ***FINANCIAL CONTRIBUTION*** ***This section of questionnaire deals with the level to which e-HRM contributes to increase the profit of the organization. Kindly put a tick mark (√) on most suitable option.***					
S. No	***Response rating scale-*** **Not at all-1 Very little -2 To some extent-3 To great extent-4 Very much-5**	1	2	3	4	5
6.01	To what extent e-HRM reduces HR professional's requirement in your organization?					
6.02	To what extent e-HRM reduces HR outsourcing cost of your organization?					
6.03	To what extent e-HRM reduces stationery material cost in your organization?					
6.04	To what extent e-HRM reduces administrative and operational cost of your organization?					
6.05	To what extent e-HRM increases output of HR function in your organization?					
6.06	To what extent e-HRM supports quality improvement saving in your organization?					
6.07	To what extent e-HRM reduces duplication of work (entries)?					
6.08	To what extent e-HRM reduces cycle time of HR functions in your organization?					
6.09	To what extent e-HRM contributes financially to your organization.					

ANNEXTURE-2

ii- <u>PUBLISHED PAPERS</u>

S.No.	Journal/ conference	Title of paper	Impact factor	ISSN/ ISBN/ Year
1	International Journal of Business Management and invention	E-HRM tools: An empirical study in select Indian organizations.	1.482	ONLINE-ISSN 2219-8028, Print- ISSN 2219 – 801X
2	Prabandhan: Indian Journal of Management	E-HRM Attributes and Internal Stakeholder's Satisfaction: A Quantitative Study in Select Indian Organizations	6.3	ISSN 0975-2854 Vol-7-issue-2 FEB-2014
3	International Journal of Exclusive Management Research	Evaluation of Level of e- HRM in Indian Organizations	5.7	ONLINE-ISSN 2249-258, Print- ISSN 2249 – 8672 Vol-4-issue-1 JAN-2014
4	Conference on Innovative Practices in Information Technology and Operations Management	E-HRM as Financial Contributor: An Empirical Study in Indian Organizations		ISBN:978-81-906991-9-7 Apeejay School of management, New Delhi JAN-2014

E-HRM as Financial Contributor: An Empirical Study in Indian Organizations

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ABSTRACT

HR function in almost all the organization is supposed to be the cost centre rather than the revenue centre and in most cases considered as the administrative overhead but there is a general perception that e-HRM is resource saving tool, if implemented and used properly will save time and money by streamlining the work and cutting down the time taken to perform different functions. E-HRM by its nature cannot generate revenue so cannot contribute in top line growth but through cost reduction or avoidance can contribute significantly in bottom line growth. E- HRM can provide efficient, reliable, easy-to-use, easily accessible, cost effective, flexible services to its stakeholders, above all a step towards paperless office and making it easier to administer HRM function to a broad group of different users.

This research paper in its endeavor examines the role of e-HRM as financial contributor in Indian organization, response has been sought after from employees of eight organizations using structured questionnaire as instrument. One sample t test has been used as instrument to measure presence of level of different attributes of financial contribution and regression analysis has been used to examine e-HRM financial contribution attributes having significant impact on organizations finance. To examine the difference in level of attributes of financial contribution in context to private vis-a-vis public and manufacturing vis-a-vis services, paired sample test has been used as a statistical tool. The study reveals that all attributes of financial contribution are not above the test value and there exist a difference in level for some attributes of financial contribution in context to private vis-a-vis public and manufacturing vis-a-vis services. Out of eight attributes of financial contribution only five fits in regression model.

KEYWORDS - Attribute, e-HRM**,** Financial**,** Stakeholder, Regression, t Test**,**

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INTRODUCTION

In present business scenario organizations are facing multipronged competition especially in terms of financial matters. Success of any organization is basically measured on top line and bottom line growth and at the same time forced to provide goods and services at lowest possible price to remain competitive and some time to have an edge. In this piquant situation HR function cannot remain silent spectator and have to deliver financially. Fletcher (2005) states that for HR to survive in this brave new world it needs to "possess a technology" and creation in some organizations of chief talent officers on talent acquisition and retention. These, like some replacements for 'traditional' HR executives may have no direct experience of human resource management at all. Instead they may have "led a line of business and have had profit and loss (P&L) responsibility, understand what it means to be accountable for delivering business results." A function can contribute financially either by revenue generation or by cost reduction / avoidance. In most of the organization by nature revenue generation is limited to marketing, operations or finance. The only choice left to HR function to contribute financially is cost reduction or avoidance. Cost reduction by e-HRM can be done by HR headcount reduction, stationery material cost reduction, and outsourcing cost reduction, reduction in HR transaction cost and reduction in cycle times of HR activities.

As per Steve foster (2009) cost reduction is a key lever in any competitive strategy and even an organization that is pursuing a differentiation or innovation strategy will also seek to control and manage its costs. Cost reduction is the most tangible type of benefit derived from e-HRM because it refers to real money that flows directly to the 'bottom-line'. It typically forms the basis for the business case and is the most tangible form of benefit, mostly appearing as a direct financial contribution. According to Lengnick-Hall & Moritz (2003), for the HR function, e-HRM has the potential to affect both efficiency and effectiveness. Efficiency can be affected by reducing cycle times for processing paperwork, increasing data accuracy, and reducing HR staff. Effectiveness can be affected by improving the capabilities of both managers and employees to make better, timelier decisions

E-HRM increases the output of HR professional as they are not supposed do overlapping pen and paper based job and in most of cases regular, routine, monotonous work can be done by employee through self service (ESS). HR professionals are supposed to do core or strategic HR activity and be a facilitator to different stakeholders like employee, consultants, legal experts and regulators who consume these services. In this way output of HR professionals increases as they have spare time to see out of the

box and be strategic partner of the business. Foster, Hawking and Stein (2004) describe that the application of the internet to the human resource function (e-HR) combines two elements: one is the use of electronic media while the other is the active participation of employees in the process. These two elements drive the technology that helps organizations lower administration costs improve employee communication and satisfaction, provide real-time access to information while at the same time reducing processing time.

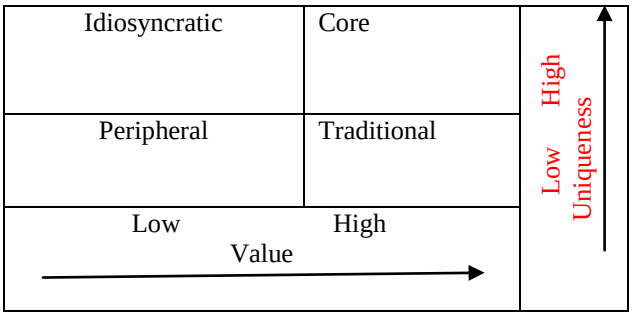
E-HRM provides HR services on digital platform and use of interactive voice response (IVR), e-mail, internet, intranet, extranet, ESS, web portal and other tools resulting in reduction in postage, paper and stationery material requirement and manpower required to carry the file from one table to other. With reduction in paper consumption, storage space and cupboards required to store old files and records minimized as these files and records are stored in computer hardware. As per Steve foster (2009) other cost savings might arise as a result of displacing existing technologies with resultant savings in licensing and support costs, or switching to electronic rather than conventional media. For example, the introduction of technology means that more documents (offer letters, interview invitations etc) can be sent on-line, with a reduced need for stationery, postage, facilities and other day-to-day costs. Recruitment processes, in particular are often highly reliant on the mail system, whereas e-recruitment eliminates this need made large savings simply by scrapping its physical applicant packs.

E-HRM facilitates automation of HR transactions resulting in mutation of entries, reduction in duplication work, less chances of human error hence quality improvement saving. Lot of activities which were earlier out sourced, now e-HRM empower employee and provide the platform of self service resulting in reduction in outsourcing cost. E-HRM streamlines the flow of task and reduces backtracking and task can be performed in assembly line production system resulting in reduction in unnecessary delay and cycle time. As per Marler (2009), organizational goals for e-HRM investments include cost reduction through streamlining HRM operations, improved effectiveness through providing better delivery of HRM services. Different e-HRM instruments and tools are being adopted by organization to facilitate the organization in achieving financial as well as stakeholder's holder goal.

LITERATURE REVIEW

According to Dessler (2004), technological applications play an increasingly important role in HR. Technology improves HR functioning in four main ways: self service, call centers, productivity improvement and outsourcing. Lepak & Snell (1998) present a model, which supports organizations to map their portfolio of HR activities into an overall architecture of virtual HR. The HR activities are divided over the four quadrants according their value and uniqueness for specific organization and every single HR activity can be mapped in one of the four quadrants. Idiosyncratic activities are most suitable for outsourcing as it is low in uniqueness, infrequent use, more standardized and its value also low. Core HR activities are expected to be performed by the HR professionals. Traditional and peripheral activities with a low uniqueness are devolved to managers and employees and the most suitable to be provided on electronic platform. As per Steve foster (2009)**,** more efficient processes also allow organizations to perform more work internally without the addition of more staff, or by transferring work back from expensive external contractors and agencies. Other costs in this category include lower IT infrastructure costs, given that many organizations are using older technology that does not permit web enabled self service, as well as lower licensing costs and consolidation of multiple applications. Others identified that there might be savings arising from reduced reliance on third party providers such as recruitment agencies, where e-HRM makes it possible to perform the work more cost effectively internally.

Table -1 Value and uniqueness of HR activities



Source- Lepak, D. & Snell, S. (1998). "Virtual HR: Strategic human resource management in the 21st century." *Human Resource Management Review*, 8(3), pp. 215−234.

According to Verma and Gopal (2010) people are still not very clear about what exactly is HR outsourcing all about, and issues like quality and trust needs to be addressed properly. Experts say the basic reasons hampering the growth of HR outsourcing in India are confidentiality and cost factors. Moreover, the fear of losing jobs, losing control over confidential data, ethics and quality

of outsourcing vendors, security breaches and overall confidence in the vendors deters many organizations. The biggest reason of HR outsourcing industry in India is on the back foot, is the government and the industry's failure to tackle issues like data security and data privacy. This is where Indian HR outsourcing companies face a major handicap. The Indian government is still grappling with drafting a data protection law designed to quell growing privacy concerns.

As per Foster (2009), cost reduction is therefore a critical driver in most e-HRM projects. Opportunity for cost reduction arises because any resource devoted to the delivery of transactional services, such as the manual entry of data, maintaining employee records, processing requests, filing and dealing with enquiries is expensive and organizations will seek to reduce these types of cost at every opportunity. It is obvious that there is clear pressure within organizations to reduce HR operational cost. According to Prasad (2003) large organizations generally install e-HR because it enables them to collect, store, process and manipulate large amount of data inputs, reduce costs of maintaining human resource data and provide accurate information about human resources anytime and anywhere. Walker (2001) stated, many systems have been implemented by cutting HR staff, outsourcing and imposing new technology. The committee Van Rijn (2001) concluded that reducing costs was not necessary because money, in their opinion, was not a real problem. The problem was the shortage of qualified employees on the labor market and therefore the public sector risked not being able to provide the services demanded. Therefore organizations should work more efficient to be able to more with less (more work with fewer employees) and in this way guarantee service provision. According to Wiscombe (2001), there is general consensus that HR technology lowers HR operating costs although estimates as to the potential for operational savings vary, from a reduction in administrative staff of up to 40% and reductions in transaction costs of 50%. According to CedarCrestone (2009), US evidence suggests that a 20-25% reduction in HR costs is possible through e-HRM.
As per HR Focus (2002), some statistics used to justify the investments made in e-HRM technologies are for example the average cost of an HR transaction, number of inquiries to the service centre, cycle times, headcount changes in the HR department and financial metrics such as return on investment (ROI) and the duration of the payback period, but also measures of employee satisfaction. Lengnick-Hall & Moritz (2003) stated the core goal of e-HRM is to assist the organization and human resource professionals to get non-strategic, transactional HR tasks done quicker, more cost-effectively and with less dependence on HR staff. Foster, Hawking and Stein (2004) describe that the application of the internet to the Human Resource function (e-HR) combines two elements; one is the use of electronic media while the other is the active participation of employees in the process. These two elements drive the technology that helps organizations lower administration costs improve employee communication and satisfaction, provide real-time access to information while at the same time reducing processing time. As per Mittal and Kumar (2006), earlier the application software were developed and maintained from office to office (decentralized) and there was no integration between the various applications. As a result duplicate entries were made in various applications at user end as well as for consolidation and compilation. The implementation of e-HRM has made duplicate efforts almost zero, as the software is maintained at one place, entry of information is done at the point of generation of information and automatic consolidation and integration of data is taking place. It has minimized the data mistakes as the data entry is being done by the person who is directly responsible for source data generation. As per Lengnick-Hall & Moritz (2003) besides this, the automation and provision of HR activities enables streamlining of the HR processes which can lead to reduced cycle times of the HR processes. Service centre initiatives permit the organization to serve up to 11% more employees with an average 60% cycle time reduction across HR processes. The Aberdeen Group (2009) found that best in class organizations decreased the number of manual HR transactions by 11% and shortened HR service delivery cycle times by 5%.

As per Foster(2009), for many organizations, introducing e-HRM represents the first stage of HR transformation, which is about efficiency, effectiveness and removing excess cost as well as improving HR service delivery. Walker (2001), states that if HR technology is to be considered successful, it must change the work performed by the human resources personnel by dramatically improving their level of service, allowing more time for work of higher value and reducing their costs. Aravind & Paramashivaiah (2006), emphasize that it is critical for every organization to resort to means that offer quality recruitment solutions at competitive costs. This is where the realm of e-recruitment starts. Gupta and Chhabra (2004) assert that the twin objectives of any human resource information systems can be understood as operational efficiency and effective managerial decision making. In the year 2002 a survey was conducted by Watson Wyatt to research the impact of e-HRM technologies. Cost reduction was found to be a top metric in formal business cases for the adoption of the e-HRM technology. It is important to act responsible with resources of the organizations; save cost whenever possible and work as efficient as possible. It is therefore expected that the adoption of e-HRM technologies is driven by the need of cost reduction and efficiency improvements of the HR system. According to Lengnick-Hall & Moritz (2003), a typical argument for the adoption of e-HRM technologies is use of e-HRM can reduce process and administration costs. Fewer HR professionals are needed because e-HRM eliminates the "HR middleman". Furthermore, e-HRM speeds up transaction processing, reduces information errors, and improves the tracking and control of HR actions. Thus e-HRM improves service delivery. As per Cober (2004), for recruitment, organizations are utilizing their own web sites even better because of the rising costs of web advertising and decreasing ease of finding qualified applicants.

The Aberdeen Group (2009) found that best in class organizations decreased the number of manual HR transactions by 11% and shortened HR service delivery cycle times by 5%. One important HR measure of administrative efficiency, apart from cost, is the number of HR people required to deliver the service relative to the number of employees supported – most large organizations strive for a ratio better than 1:100, that is, one HR person serving every 100 employees. Evidence suggests that the amount of time spent on operational (i.e. administrative) work is reducing as a result of past process improvement efforts - it has now fallen as a proportion of overall workload from 50% in 2003 to 36% (2007), achieved through technology-enabled HR delivery models such as shared services and outsourcing.

According to Jessup and Valacich (2004) various kinds of information systems and the innovative techniques are being used by organizations for their benefit. The system has provided better corporate governance and employees have become aware that their movement, overtime, unauthorized absence, tours, expenses on medical, transport, telephone etc. is being monitored. As per Panayotopoulou (2007), this type of employee and manager self service leads to higher accuracy and data quality. Adamson, & Zampetti, (2001). stated, through the implementation and subsequent use of employee and manager self service applications, e-HRM has brought about considerable improvement in the updating of employee information, the posting of job specifications, changes in policy and procedure, training and staff changes. As per JD Edwards Enterprise One Manager Self Service (2007), transforms managerial activities from manual, paper-based processes with multiple levels of approval to a Web-enabled, self-service system, it allows both managers and employees to stay focused on what matters most: improving performance.
.As per Hawking and Stein (2004) this technology holds out the promise of challenging the past role of HR as one of payroll processing and manual administrative process to one where efficiencies cost can be gained, enabling more time and energy to be devoted to strategic business issues. As per Jd Edwards Enterprise One Manager self service (2007), delegation of authority at the appropriate level and time, the time saved can be translated directly into cost savings for the organization. By empowering managers to perform business transactions themselves, human resources staff time can be saved and, just as importantly, your managers can be more productive because they have the real-time information they need at their fingertips, which allows them to manage their teams more effectively. E-HRM studies of researchers like Hawking (2004), Ruel (2004), Strohmeier, (2007), reveals the idea that e-HRM increases productivity through decreased requirements for HR staff, increased speed of process due to automation as well as cost reduction. Towers-Perrin (2002) notes how the use of e-HRM is creating opportunities for HR shared services delivery centers, which in turn lead to new economies of scale, including better greater efficiencies for HR operations. According to Aberdeen Group (2008) Indeed, for most organizations investing in e-HRM, it is unlikely that there will be financial funding for an e-HRM project without quantified operational benefits; economic pressures and the need for tight cost control drive 76% of investments in HR systems, although fewer than one third of organizations describe the internal HR function as 'very cost effective'.
According to Mittal & Kumar (2006), many of the information sent earlier to the employees through paper is made available online which has reduced lot of paper work including pre-printed stationery etc. All the application forms have been provided online wherein employee can used them for submitting their applications. With the implementation of workflow applications papers have been replaced with electronic documents. As mentioned earlier, it is very difficult to find out the direct cost and benefit from the software. So is the case with return on investment (ROI). According to Adamson and Zampetti (2001), HR self-service, entails the use of interactive technology by employees and managers to obtain information, conduct transactions and essentially short-cut processes that previously required multiple steps, paperwork, and the involvement of HR staffers. According to Mittal, & Kumar (2006), the desired data is being replicated online between various information centers from time to time. As a result the consolidated information is available to the management for effective decision making instantaneously and they need not to wait for collection, compilation and consolidation of information, which used to take lot of time earlier. This has resulted in minimizing the lead time and saving of resources both in terms of manpower, paper movement and cost on communication and operation**.**

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RESEARCH OBJECTIVE AND METHODOLOGY

The literature review reveals very little empirical study exclusively on e-HRM contributing financially. The limited research that has been undertaken is mostly based on western countries not from emerging countries like India which is all together different from western countries, so there is a possibility of different result. The present research in its endeavor identifies research gap and formulates objectives.

- To assess the present level of attributes of financial contribution
- To analyse the difference in level of attributes of financial contribution based on public vs private organisation.
- To analyse the difference in level of attributes of financial contribution based on manufacturing vs services organization.
- To examine financial contribution attributes having significant impact on finances of Indian organizations.

Research Hypothesis

H0 A)-It is hypothesized that the present level of e-HRM attributes of financial contribution is at mean (test) value.

H0 B) It is hypothesized that difference in mean value of attributes of financial contribution between public and private organization is zero.

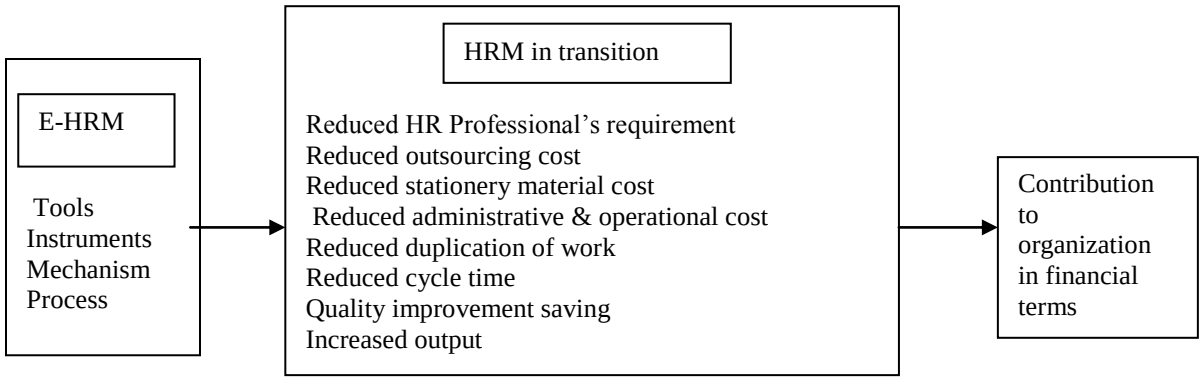
H0 C) It is hypothesized that difference in mean value of attributes of financial contribution between manufacturing vs services organization is zero.

H0 D) It is hypothesized that financial contribution attributes have not significant impact on finances of Indian organisation.

Research Model

Research model developed on literature survey envisage that HRM function delivered in electronic form supported by web based, wireless, multimedia, software and hardware tools and instruments generates mechanism and process resulting in e-HRM attributes or power to contribute financially. From literature review total eight attributes has been identified and model has been portrayed taking financial contribution as a dependent variable.

Figure- 1 E-HRM financial contribution model (Portrayed)



Source – literature review by scholar

Sample unit and Sample Size: The research comprises of eight Indian organizations selected as sample organizations and it consists of public and private organizations both from manufacturing /mining sector and services sector in equal numbers.

Table- 2 Nature of business

Sample organization	Manufacturing/Mining	Services
Public	1.Power generator 2.Mining	3. Bank 4. Insurance
Private	5. Automobile manufacturer 6. Tech-manufacturing company	7. Bank 8. Software developer

Source –Formulated by scholar

Table-2 depicts the nature of business of sample organizations. These blue chip organizations are having sound HR practices and market leader in that particular segment. Since primary data is being used for this study, so identity of the organizations has been not disclosed**.** Target respondents are managers of these organizations. The sample size of the research consists of 242 managers/ executive who can assess the impact of e-HRM in financial terms.

Data Collection: Structured questionnaire with 5-point response scale (not at all, very little, to some extent, to great extent, very much) has been used as a research instrument. The statement of questionnaire is as follows.

- To what extent e-HRM reduces HR professional's requirement in your organization?
- To what extent e-HRM reduces HR outsourcing cost of your organization?

- To what extent e-HRM reduces stationery material cost in your organization?
- To what extent e-HRM reduces administrative and operational cost of your organization?
- To what extent e-HRM increases output of HR function in your organization?
- To what extent e-HRM supports quality improvement saving in your organization?
- To what extent e-HRM reduces duplication of work (entries)?
- To what extent e-HRM reduces cycle time of HR functions in your organization?
- To what extent e-HRM contributes financially to your organization?

These questionnaires were sent on line to the employees and in some cases questionnaire in hard copy was also provided. Out of 120 questionnaire send online, 24 respondents filled the questionnaire and submitted i.e. response rate of 20% and out of 122 questionnaire provided to respondents in hard copy format 60 responses were collected i.e. response rate of 49.1% hence in total 84 responses out of a sample size of 242 i.e. overall response rate of 34.7%. First page of survey dealt with the introduction, purpose of the study, assurance of confidentiality and anonymity. Second page and onwards dealt with profile of respondents and actual survey.

Data analysis and interpretation: The statistical techniques were applied using the Statistical Package for the Social Sciences (SPSS) 16.0. One sample t-test had been used to test the hypothesis A, Paired sample t-test has been used to test hypothesis B and C, regression analysis has been used to develop a model and test hypothesis D.

TABLE- 3 One-Sample t Test of attributes of Financial Contribution

Attributes	Test Value = 3.5	Degree of freedom = 83	
	Mean	t	Sig. (2-tailed)
Reduce HR	3.6310	1.064	.290
Outsourcing cost	3.8214	2.579	.012*
Stationery material	3.9405	4.044	.000*
Administrative & operational	3.9286	3.781	.000*
output of HR	3.9524	4.458	.000*
Improvement saving	3.9524	4.078	.000*
Duplication	4.1190	6.629	.000*
Cycle time	4.0238	5.019	.000*
Financial contribution	4.0952	6.250	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t +1.645, one tailed test, df 83, sig 5%)

According to table- 3 for the attribute "HR professional" significance level is 0.145 (0.29/2- one tailed test) which is much above the assumed significance level of 0.05 hence null hypothesis is accepted, shows there is no significant difference between the test value and the observed means value but for remaining attributes of financial contribution e-HRM has low significance values of less than 0.05 (0.012 for the parameter "outsourcing cost" and for other attributes significance level 0 .00) hence null hypothesis rejected, indicates that there is a significant difference between the test value and the observed means. With Positive t value it can be concluded that e-HRM attributes of financial contribution is more than the test value.

Financial contribution (public vis-à-vis private)-To test the hypothesis "It is hypothesized that difference in mean value of attributes of financial contribution between public and private organization is zero" (hypothesis - B), paired sample T test has been used as a statistical tool.

TABLE-4 Paired Sample Test (public vis-à-vis private)

Pair	Attributes	Mean	Std. Deviation	t	Sig. (2-tailed)
1	HR Professional	-.60976	1.35790	-2.875	.006*
2	Outsourcing cost	-.41463	1.62751	-1.631	.111
3	Stationery material	-.36585	1.35566	-1.728	.092

4	Administrative & operational	-.17073	1.44745	-.755	.455
5	output of HR	.00000	1.58114	.000	1.000
6	Improvement saving	-.14634	1.13051	-.829	.412
7	Duplication	-.29268	1.30851	-1.432	.160
8	Cycle time	-.34146	1.37131	-1.594	.119
9	Financial contribution	-.14634	1.29540	-.723	.474

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t 1.96 two tailed test, df 41, sig 5%)

According to table 4 for the attribute "HR professional" significance level is 0.006 which is much below the assumed significance level of 0.05 hence null hypothesis is rejected, shows there is significant difference in mean values between public and private organizations for this particular attribute , but for remaining attributes of financial contribution e-HRM has high significance values of more than 0.05, hence null hypothesis accepted , indicates that there is no significant difference in the mean values for these attributes so null hypothesis accepted. Overall it can be concluded that null hypothesis (H0) B is partially rejected.

Financial contribution (manufacturing vis-à-vis services) -To test the hypothesis "It is hypothesized that difference in mean value of attributes of financial contribution between manufacturing/ mining and services is zero" (hypothesis - C), paired sample T test has been used as a statistical tool.

TABLE- 5 Paired Sample Test (manufacturing vis-à-vis service)

Pair	attributes	Mean	Std. Deviation	t	Sig. (2-tailed)
1	HR Professional	-.50000	1.50287	-1.822	.079
2	Outsourcing cost	.00000	1.59741	.000	1.000
3	Stationery material	-.43333	1.13512	-2.091	.045*
4	Administrative & operational	-.53333	1.45586	-1.946	.054
5	output of HR	-.33333	1.34762	-1.355	.186
6	Improvement saving	-.23333	1.40647	-.909	.371
7	Duplication	-.16667	1.31525	-.694	.493
8	Cycle time	-.26667	1.25762	-1.161	.255
9	Financial contribution	-.36667	1.12903	-1.779	.086

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (Table value of t 1.96 two tailed test, df 41, sig 5%)

According to table- 5 for the attribute "stationery material" significance level is 0.045 which is below the assumed significance level of 0.05 hence null hypothesis is rejected, shows there is significant difference in mean values between manufacturing and services organizations for this particular attribute , but for remaining attributes of financial contribution e-HRM has high significance values of more than 0.05, hence null hypothesis accepted , indicates that there is no significant difference in the mean values for these attributes so null hypothesis is accepted. Overall it can be concluded that null hypothesis-B is partially rejected for the attributes of financial contribution taking manufacturing vis-à-vis service as paired sample test of comparison.

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TABLE -6 Regression Coefficients of attributes

	Unstandardized Coefficients		t	Sig.
	B	Beta		
(Constant)	-.037		-.191	.849
HR professional	-.047	-.061	-.982	.329
outsourcing cost	.044	.057	1.055	.295
stationery material	-.053	-.061	-.678	.500
Administrative & operational	.129	.147	1.973	.049*
Increased output of HR	.300	.320	4.266	.000*
Quality improvement	-.133	-.143	-1.9817	.048*
Duplication	.325	.318	5.510	.000*
cycle time	.453	.496	6.561	.000*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (Table value of t 1.96, df 83, sig 5%)
Dependent Variable: financial contribution

Table – 6 depicts attributes "HR professional", "outsourcing cost", "stationery material" is not statistically significant and doesn't fit in regression model. Based on table the estimated model of attributes having significant impact on financial contribution is -0.37+ .453 (cycle time) +.325 (Duplication) + .300 (Increased output of HR) + .129 administrative & operational -.133 (Quality improvement). Constant is not statistically significant as its value is 0.849 much above .05. It can be said that five attributes have significant impact on financial contribution, hence null hypothesis (H0) D is partially rejected.

CONCLUSION AND RECOMMENDATIONS

Result shows that present level of attributes of financial contribution is above test value; hence it becomes evident that all the attributes of financial contribution is present except attribute "HR professional". This gives a clear indication that in Indian organization implementation of e-HRM is not for HR professional's head count reduction as mentioned in most of the literature. It is obvious from the study that level of e-HRM attributes of financial contribution is not significantly different in public and private organizations except for the attribute "HR professional" where there is significant difference; Similarly the level of e-HRM attributes of financial contribution is not significantly different in manufacturing and services organizations except for the attributes "stationery material".

Result indicate only five attributes or independent variables (Cycle time, Duplication, Increased output, Administrative & operational , Quality improvement) fits in regression model and shows a significant cause and effect relationship but surprisingly independent variables like "HR professional", "outsourcing cost", "stationery material" were omitted. These variables were not good predictor for dependent variable financial contribution. It is obvious that each attribute has not same impact. Out of eight parameters five have significant impact on financial contribution. Out of five attributes having significant impact on financial contribution "Quality improvement" is showing a negative coefficient, reflecting quality improvement saving has negative impact on finances of the organization.

It is recommended to architects of e-HRM, while formulating the framework of e-HRM and developing hardware and software due attention should be given to the attributes of financial contribution and every effort should be made to make HR function efficient without compromising its effectiveness. Some time due to faulty selection of software, hardware and lack of training to end user doesn't provide the required result and only aggravates the situation. Organizations should also measure the investment cost, return on investment, payback period but in most of cases it is difficult as digitization of HRM function is not a standalone activity and it's very difficult to measure the return in quantitative term or rupees term. Organizations should take periodic review and feedback from end user and incorporate the suggestions in the system.
Literature review reveals HR outsourcing industry in India is not in healthy stage because government and the industry's failure to tackle issues like data security and data privacy. The Indian government should draft a data protection law so that these issues can be resolved.
Present research paves the way of further research which can be based on value for money, payback period, return on investment and many more. Research has some limitation as researcher has selected eight organizations so its result cannot be blindly generalized to all other organizations. Contextual analysis is important before implementing the results. The study is based on non-probability sampling. Participants were selected based on judgmental and convenience sampling techniques. One of the biggest limitation of the study is it has not taken implementation and operating cost in account.

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CHAPTER - 1

INTRODUCTION

1.1 Paradigm Shift- The ongoing diffusion of information and communication technology (ICT) in all facets of business is leading to multidimensional and often unpredictable changes and advancements. Except manufacturing and operations most of the functions of the organization is performed with the click of mouse and latest evolution touch screen, thus the business and its employee in present confront numerous tests and prospects that grow due to complex nature of work and unending changes taking place in the domain of work. Major challenges include, frequent change in business cycle, rapid change in work technology, unification of world economy, wireless communication, e-business, economic restructuring and new code of employment. One of the largest breakthroughs in the work arena is automation, modernisation, digitisation of the work and nearly steady scientific progress, with a specific shift in the direction of the deployment of scientifically modern techniques of accomplishment of different functions and jobs, hence human resource (HR) function of an organization cannot remain aloof and secluded and same pattern has got to be followed for human resource management practices, henceforth fresh, vibrant methods of administration of human resources are sought after every day. This has more impetus as different stakeholders are hungry of information and need customised information in 24*7mode at their finger tips.

ICT has led to swift expansion of e-business and still upcoming as a big thrust, as a result human resource and HR professionals are confronted with the different tests and problems of delivering in directions in the streak with the organizational trade. Human resource function can become a valuable associate in delivering accomplishments; however for deliverance it needs alter its spotlight, its position, along with its service delivery mechanism. HRM has to function parallel of being proactive and reactive simultaneously in reply to the continuous varying commercial background and this is rife in the way that personnel function both within and outside the organisation is being conducted. New vibrant, flexible and adaptable way of managing HR issues policies and practices are being sought after and HR service delivery in electronic form is the solution of above mentioned issues. Paradigm shift in business environment nationally and

internationally is having significant impact on internal business environment of Indian organisations and consequently have an impact on personnel function being delivered.

1.2 E-HRM "The Technology"- ICT is one of major breakthrough in personnel function by reorganization and reorientation of process, mechanism and system as a whole not only in the name of digitization and automation of services but also the services are being accessed by different stakeholders at different point and mode. Most of progressive establishments are set with different type of mechanism which facilitates in deliverance of HR services in digital platform.

E-HRM has made few buzzwords like automation, transparency, empowerment, paperless office, least human interference a reality and is considered the panacea for all the ills of workplace. Technology has led a major transformation in the providing and accessing of personnel provisions in the organisations. This is quite evident by way of human resource facilities and programs both internally and externally in the establishment is being executed and delivered**.** There is a wide practice by HR staff in organization to activate e-HRM tools to execute responsibilities on digital base by e-personnel data management, e-administration, e-work design , e-personnel planning, e-recruitment, e-selection, e-learning and training, virtual performance appraisal , e-salary and benefit administration, e-times office, and e-compliance reporting resulting in stakeholders are likely to receive HR services in a lesser amount by physical presence and pen and paper mode and consumes operational, monotonous, regular operational services by active involvement in ICT enabled platform with personnel staff or outside merchants via phones, mobile, world wide web and other wireless devices.

1.3 E -HRM "Continuum"- The role of HR function in few organizations are only limited to elementary HR interventions, day to day activities, time and labor management, salary and personal data administration, often named as operational (transactional) HRM. Organizations with sound and healthy HR function, having most of prevalent and relevant HR functions from hiring to retiring including all the life events of employee fully functional and duly focused HR department termed it as relational (traditional) HRM. Some of organizations have faith in employer brand, change management, knowledge management, enabling strategic capability to

HR function named as transformational HRM. Three level of HR function has been identified but extent to its digitization varies from organization to organization. In an organization HR function may be at highest level i.e. transformational level but application of electronic tools may be limited to operational or relational level.

Three main forms of e-HRM, operational, relational, and transformational are exceptionally and intimately linked to the technique in which personnel function progress inside the establishment. For the operational type of e-HRM, HRM activities that were offered face-to-face now are being offered through web-based technology. For relational e-HRM, most of HRM functions will have a support of internet technology rather using pen and paper. Transformational e-HRM creates workforce capable to face any challenges and willing to change as per requirement with a aim to talent management and employer brand building through an incorporated and interlinked set of software and hardware tools thus compatible with strategic choice of the business.. Different levels of e-HRM differ from organisation to organisation. Some of the organisations would use technology for initial level i.e. operation and others using technology to the advanced level named as transformational e-HRM and a part of the organisation in between at the relational level.

1.4 E-HRM "The Care Taker"- Present time business has lots of stakeholders but internal stakeholder i.e. employees are the most important as they are the deciding factor and determine the direction and level of the business especially in knowledge economy where services are high in demand. Higher satisfaction level of employee doesn't guarantee high level of performance but desirable to remain competitive in business. Some organizations proactively and few with the rapid development of e-commerce and significant rise in virtual, networked organizations has compelled HR professionals to sail in digital world and offer services on electronic platform resulting in emergence of electronic human resource (e-HRM). E-HRM is integration of information and communication technology (ICT) and HR mechanism, content, process to provide services to different stakeholders and simultaneously providing competitive edge to the organization.

At the same time workforce, the most important asset of any organization becomes liability if they are not provided prerequisite attribute of satisfaction to align with corporate goals and visions. In any business there are three basic resources used as input are physical resource, financial resource and human resource. Out all these three resources human resource is most important and valuable as business result or top-line and bottom-line growth of an organization depends on human resource who handle the organization. All other resources can be imitated but human resource cannot be imitated and one cannot have a replica or duplicate copy of employees as workforce of an organization is unique. Physical and financial resources are insignificant when compared with human resource.

In modern times there is complete dearth of competent, knowledgeable and skillful employees, so workforce become as significant as clients, so employee satisfaction and customer satisfaction are equally important for any organization as keeping workforce motivated to deliver gold is very challenging. So HR has to play a major role and delivering services in digital or electronic platform is a big game changer. It is therefore expected that the adoption of e-HRM technologies is driven by need for client service improvements. Empowerment of employees in availing HR services is a one of substantial breakthrough in HRM to navigate it to higher levels. The way HR services offered in an organization must be easy to access, easy to use and simultaneously useful to use. HR service delivery should facilitate role clarity, internal communication, and must act as a decision support system. Manpower satisfaction level increases if there is flexibility and transparency in HR service delivery.

Traditional HRM is paper consuming, time consuming and people centric where e-HRM is application of IT systems, interactive electronic media, and telecommunication networks to carry out the functions of the human resources management department. E-HRM managers always strive to provide a seamless integration of all HRM services with a common goal of internal stakeholder's satisfaction. E-HRM is an internet-based elucidation that extracts benefit of the most up-to-date web application technical know-how to bring an online real-time human resource management solution. E-HRM is use of ICT for human resource function which facilitates easy interface among different stakeholders of the business. It compiles information about life events of employee and reduces cycle time and consumption of paper considerably and

permits trouble-free entrée of huge amount of data and information. Workforce may track their career path and achievements automatically without human intervention. It may be used for execution of diverse HR process in an establishment. Properly managed e-HRM act as a communication tool which is flexible (24*7), anywhere anyplace, accurate, integrated, completely aimed to suitable or needful consumer, and bundled in a package to be well understood by service recipient.

Through e-HRM workforce or teams may contribute and persuade, over HR function from top level radical pronouncements to regular monotonous provisions by giving feedback and suggestions**.** Empowerment is about workforce involvement by way of augmented assignment of duty down the chain of command, which is facilitated by e-HRM application. At the same time not providing routine monotonous tasks in self service mode may be a major lacuna on the personnel function having no spare moment to think and do something different. Instead of HR executives handling everyday routine tasks such as leave application, change in personal information, salary slip, tax deduction can be managed by the personnel themselves or their head of the department**.** E-HRM imbibes a system of transparency and minimizes or eliminates involvement of personnel staff, permitting executives and staffs to execute HR chores straight with self service applications**,** hence inculcating the sense of empowerment. The use of web-based technologies for human resource management practices and policies is maturing within business lifecycle and facilitating transparency. It is important for each member to understand their role, the role overlapping and every possible step has to be taken to minimize role ambiguity. The application of e-HRM has the outcome that precise human resources activities are delegated to managers and employees and thus the execution of e-HRM have an impact on the sharing out of HR tasks. The organizations overall strategy has an influence on the division of the responsibilities however link provided and channel of communication assigned somehow facilitates division of authority and responsibilities between managers, employees and HR professionals hence role clarity**.**

1.5 E-HRM "The Business Partner"- There could be differences on several or almost all the issues but there is unanimity among the entire management practitioner that people are the only key competitive advantage of any organization. This clearly indicates the HR function

responsible for the same has to tighten belts by reengineering or reinventing the service delivery of HR function in electronic platform so that it can align HR policies, mechanism, process, and practices with business strategy of the organization. Electronic human resource management as a true business partner, must be able to increase organization's strategic capability by employing a shared mind-set and accountability to key performance indicators by standardizing its service delivery, reducing the administrative burden of HR professionals, improving employer brand image, creating ready to change workforce, increasing competence of employee, and supporting knowledge management . E-HRM is always on radar and examined whether it can succeed to change the outlook of HR function from reactive to proactive, cost centre to bottom line contributor, facilitator to business partner, transactional to transformational or strategic**.**

E- HRM is taken as an important source of strategic capability building. E- HRM is supposed to shift focus of HR function from employee welfare to strategic contributor by reorienting intellectual capital of the organization and be a facilitator of knowledge management and at the end provide strategic edge to the establishment. Its attributes, tools, mechanism, system is a big game changer and pathfinder in providing strategic capability to the HR function. E-HRM facilitates in better serving and management of every institution's most important strategic capability builder, innovator, thinker, server of client- employee**.** Digitization of HR function gets rid of redundant actions, presents more precise and timely human resources information and – perhaps most important – automates the time killing, fault prone human resource paper story. It leaves human resource professionals with more time to focus on strategic tasks and manage in best possible way the company's most important resource- its people. Technological change is a key driver for HR transformation, providing the foundation to support HR's growing strategic focus. Especially, network and internet technologies have already given employees direct contact to each other, to HR, and to business information with such ease and intelligence that every worker can contribute more directly to business results. It is seen that there is a radical change in human resource management function and there is transition from a secretarial, maintenance, utility department to the core of strategic orientation and the application of technical knowhow is one of the main ingredient of this massive change. Budding technical knowhow has resulted in new scope in the direction of human resource by means of formation of virtual staff, dropping

levels of hierarchy and rewriting the position of human resource as strategic associate in the age of information system. Establishments associating human resource function along with the other functions like marketing, finance, operations, information technology of company have the prospective to add useful value to the strategic assimilation of human resource function with establishment's overall strategy. E-HRM technology is harbinger of knowledge management and creates positive organizational culture and high performance systems. Knowledge management is supposed to be biggest wealth creator and it may be explicit or implicit inside the establishment or outside the establishment, if it s utilized in proper way can deliver gold both for the organization and individual employee. Information and communication technology is supposed to be facilitator of knowledge exchange and has been largely automated through latest internet and web technology. Now a day's lot of organization has initiated to clinch human resource automation and computerization as it has widespread benefit to the organization. E-HRM not only automates the HR function but provides lot of leverage to the business by being effective and efficient.

E-HRM is the in reality a strategic plan to outshine the business in the computerization era, by interlinking HR function along the organizational strategy of the establishment and create congruence between business strategy and human resource policies which jointly enhance the attainment of bottom line, competitiveness and performance. Strategic HRM helps the organization to achieve strategic fit with its market environment. E-HRM facilitates HR function in liberating itself from daily operational, monotonous requirements and making it more in tune with the decision making, understanding of the employees, preparing change ready workforce. E-HRM is a big contributor and facilitator in employer brand building**.** As a strategic facilitator e-HRM standardizes the service delivery, reduces administrative burden, and improves the competence of the employee Alignment of HR policies/ practices with business strategy of the organization is one of the major characteristics of e-HRM. E-HRM attributes, tools, mechanism, system is a big game changer and pathfinder in providing strategic capability to HRM function if implemented properly.

1.6 E-HRM "Bottom Line Contributor"- There is a common opinion that HR function in nearly all the business are cost centre rather than the profit centre and in most cases measured as

the operating cost. In present business scenario organizations are facing multipronged competition especially in terms of financial matters. Success of any organization is basically measured on top line and bottom line growth and at the same time forced to provide goods and services at lowest possible price to remain competitive and some time to have an edge. In most of the organization by nature revenue generation is limited to marketing, operation or finance function. In this piquant situation HR function cannot remain silent spectator and have to deliver financially. A function can contribute financially either by revenue generation or by cost reduction/ avoidance. The only option left to HR function to contribute financially, is cost reduction or avoidance. For HR professionals there is an obvious choice that is in form of e-HRM which is considered resource saving tool, if implemented and used properly, will save costs, time and money by streamlining the work and cutting down on time taken to perform different functions. Cost reduction by e-HRM can be done by HR headcount reduction, stationery material cost reduction, outsourcing cost reduction, reduction in HR transaction cost and reduction in cycle times of HR activities.

Cost cutting is a key force in any strategy whether it is cost, differentiation or focus. For an organization following cost as unique selling proposition (USP), cost control is of highest importance but for an organization even pursuing a differentiation, innovation or focus strategy, cost reduction or control is desirable. Cost reduction is the most substantial consequent from e-HRM because it refers to real benefit that pour straight to the profit margin. It typically forms the basis for the business case and is the most tangible form of benefit, mostly appearing as a direct financial contribution. E-HRM enhances the productivity of HR professional as they are not supposed to do overlapping pen and paper based jobs and in most of cases normal, routine, monotonous work can be done by employee through self service application (SSA). The HR executives are supposed to perform core or strategic HR activity and be a facilitator to different stakeholders like employees, professionals, legal specialists and controllers who use these services. In this way output of HR professionals increases as they have spare time to see out of the box and be strategic partner of the business. Relevance of the internet to the HR function (e-HR) combines two fundamentals: one is digital platform while the other is the vigorous involvement of workforce in the development. These fundamentals force the technology that

helps business reduce administrative cost, enhances employee interaction and satisfaction; make available immediate access to information while at the same time lowering dispensation time.

Managerial aim for e-HRM include decrease in cost through reorganization of HRM maneuvers improved efficiency and effectiveness through providing better deliverance of HRM services. Different e-HRM instruments and tools adopted by organizations facilitate the organization in achieving financial as well as stakeholder's goals. E-HRM provides HR services on digital platform and use of interactive voice response (IVR), e-mail, internet, intranet, extranet, ESS, web portal and other tools resulting in reduction in postage, paper and stationery material requirement and manpower required to carry the file from one table to other. With reduction in paper consumption, storage space and cupboards required to store old files and records minimized as these files and records are stored in computer hardware. E-HRM facilitates automation of HR transactions resulting in mutation of entries, reduction in duplication work, less chances of human error hence quality improvement saving. Lot of activities which were earlier out sourced, now e-HRM empower employee and provide the platform of self service and can be performed by employee themselves and at the end reduction in outsourcing cost. E-HRM streamlines the flow of task and reduces backtracking and task can be performed in assembly line production system resulting in reduction in unnecessary delay and cycle time. Every facility requires initial investment and day to day operational cost. In most of the organization digitization of HR function is not a standalone activity so it's very difficult to calculate. Calculation of payback period or return on investment is similarly a very tedious and complex task as benefits of e-HRM is mostly qualitative in nature very difficult to quantify in monetary terms.

CHAPTER-2

LITERATURE REVIEW

With the idea of research in human resource management and finalization of area, electronic human resource management (e-HRM), the next step was review of literature for having a basic framework for formulation of possible constructs. E-HRM literature review is the most important aspect of the research as it provides the base and assesses the information and work done by predecessors in this area, thus identifying the research gap. The focal point of this literature review is to recapitulate and amalgamate the arguments and ideas of other researchers about e-HRM. Since evolution of e- HRM as a research topic, lot of researcher has contributed in this field. Present study has classified and compiled the related literature with a specific heading so that literature review is logical and meaning could be derived out of it.

2.1 E-HRM Domain- According to Broderick and Boudreau (1992) "human resource information systems (HRIS) as the combination of data centric computer applications and hardware and software that are required to compile, document, store, manage, deliver, present and contrive data for human resources". Lepak and Snell (1998) used the wording, "virtual HR" to express a network-supported arrangement built on partnerships and mediated by information technologies to help the institution, obtain, develop, and set up intellectual capital.

Wright and Dyer (2000) propagate most important motive of development of e-HRM is e-business. According to them e-business is upcoming and as a result HR and HR practitioners are faced with the challenge of delivering in ways that are in line with the business. In their opinion, HR functions become decisive partners in driving success, but to do so needs that HR alters its focus, its role, and its delivery systems, thus in e-business, the application of intranet technology for HR is unavoidable. In the opinion of Noel, et al. (2000), electronic human resource management (e-HRM) implies processing and communication of digitized information used in HRM, together with text, audio, video, visual images, from one computer to a different electronic appliance. Workforce does not have to be in the same geographic location to work collectively.

As per Gowan Mary (2001) *"*electronic human resource management system (e-HRM System) is a net-based solution that takes benefit of the latest internet technology to perform an online real-time human resource management solution and it is all-inclusive but easy to use, full of latest features, yet flexible enough to be customized to one's specific necessitates". As per Walker (2001), the term e-HRM is widely used but a unanimously accepted definition is still undecided. It is over and over again used tantamount with like terms such as web-based human resources. E-HRM is also seen as a compilation of facts, principles and best-practice approaches to effective human resource management. Adam and Van Berg (2001) states, e-HRM is using web-based technologies (internet, intranet, extranet, portal) for the best of human resource management that reduces the administrative work, gives the chance to workers to plan their career dynamically, giving the management the prospect to take well founded resolutions and improving the effectiveness and efficiency.

Kovach, et al. (2002) define e-HRM as web-technology-based conduit; offer the managers and the workforce of the organization with information as well with the capability to finish HR-related transactions. As per Watson Wyatt Research Report (2002), e-HR implies the broad access to human resources data, instruments and operations available directly on the web in most offices today. It illustrates the "net effect" of the outburst in web technologies and the striking impact this growth has had on the way workforce now obtain employment-related information via integrated self-service applications. It also contains amalgamation of new technologies available that help connect numerous systems, tools and databases, both within and outside the organization.

In other Watson Wyatt (2002) survey of 649 US organizations accepted the definition of business to electronics (B2E) as the application of any technical knowhow, facilitating managers and employees to have direct access to HR and other workplace services for communication, performance, reporting, team management, knowledge management, and learning in addition to administrative applications. Centred on swiftly developing web technologies, recent web-based HR practices cover a fully incorporated network of HR-related data, tools and transactions.

According to Lengnick-Hall and Moritz (2003), where HRIS were directed to help the HR experts in delivering their HR tasks, electronic HRM (e-HRM) applications are, beside directed to carry HR professionals in performing their HR tasks, and also directed to support managers and employees in completion of their HR jobs. E-HRM implies to conducting business transactions - in this case HR - using the internet.

E-HRM as defined by Kettley and Reilly (2003) "is a computerized human resource information system (CHRIS) and consists of a fully integrated, company-wide network of HR related data, information, services, databases, tools and transactions and such a system can be described as e-HR, meaning the use of traditional, web and voice technologies to develop the HR administration, transactions and process deliverance". According to Hendrickson (2003), as within other organizational functions, information technology has become a significant process for supporting the processes of the HR function and the HR function is now closing the gap in terms of applying new IT capabilities to traditional functions.

As per Bulmash, J. (2004), human resource technology can be elaborated as any technical knowhow that is used to attract , recruit, retain, and maintain human resources, facilitate HR administration, and optimize HRM. This expertise can be used in various types of human resource information systems (HRIS) and by different stakeholders, such as executives, operates, and HR professionals. As per Bondarouk, T. et.al. (2004), tentatively "e-HRM as an approach of executing human resource management (HRM) strategies, policies and practices in establishments through a deliberate and directed support of, and/or with the full use of, web-technology based channel". Bondarouk and Ruel, (2006) expanded this definition in later work to include the communication component of e-HRM, where employee and employers, through e-HRM, are able to communicate about HR content more effectively According to latest definition, Bondarouk and Ruel, (2009), e-HRM as an umbrella term encompassing all possible integration mechanisms and contents between HRM and information technologies, intending at creating value within and across organization for targeted workforce and management.

Van den Bos and Van deer heijdeen (2005) states electronic human resource management system (e-HRM) is to facilitate human resource management through application of web technology. According to Uman ID (2006) electronic human resource management system (e-HRM) is revamp and automation procedure by which the HRM function can pay attention on delivering value to the business. It is a perception through which HR information and process support self-service mode of service delivery, and is made accessible over the internet or intranet so that workforce can utilize and inform. Strohmeier (2007) states, e-HRM is the planning, execution and implementation of information technology for both networking and supporting at least two people or unified actors in their shared performing of HR actions. According to Voermans and Veldhoven (2007), e-HRM could be intently defined as the administrative support of the HR department in business by using internet technology, but also emphasise the significance of understanding that the beginning of e-HRM may lead to alteration in fact and positioning of the HR function.

As per Olivas-Lujan et al. (2007) e-HRM is not a totally fresh thought and has been in application since the early 1990s when the thought of e-commerce swept across the organisation. According to Shane (2009) electronic human resource management system (e-HRM) is seen as the connection between human resource management and information technology. It combines HRM as a discipline and in particular it's basic HR activities and processes with the information technology function. According to Varma (2010), in cases where a business deliberately and in a focused way prefers to put in place web technology for HRM purpose, based upon the thought that management and workforce should cooperate and play an active role in delivering out HR work, we can have a thought of e-HRM

Table -2.1: Defining e-HRM

Author	Year	Definition
Broderick and Boudreau	1992	Human resource information systems (HRIS) as the combination of data centric computer applications and hardware and software that are required to compile, documentation, store, manage, deliver, present and contrive data for human resources.
Lepak & Snell	1998	Virtual HR, to express a network-supported arrangement built on partnerships and mediated by information technologies to help the institution, obtain, develop, and set up intellectual capital
Noe, Gerhard and Wright	2000	Electronic human resource management (e-HRM) implies processing and communication of digitized information used in HRM, together with text, audio, video, visual images, from one computer to a different electronic appliance.
Adam & van den Berg	2001	E-HRM is using web-based technologies (internet, intranet, extranet, portal) for the best of human resource management that reduces the administrative work, gives the chance to workers to plan their career dynamically, giving the management the prospect to take well founded resolutions and improving the effectiveness and efficiency.
Mary Gowan	2001	Electronic human resource management system (e-HRM System) as a net-based solution that takes benefit of the latest internet technology to perform an online real-time human resource management solution.
Walker,	2001	E-HRM is widely used but a unanimously accepted definition is still undecided. It is over and over again used tantamount with like terms such as web-based human resources. E-HRM is also seen as a compilation of facts, principles and best-practice approaches to effective human resource management
Watson Wyatt	2002	E-HR implies the broad access to human resources data, instruments and operations available directly on the web in most offices today. It illustrates the "net effect" of the outburst in web technologies and the striking impact this growth has had on the way workforce now obtain employment-related information via integrated self-service applications.
Watson Wyatt	2002a	Application of any technical knowhow facilitates managers and employees to have direct access to HR and other workplace services for communication, performance, reporting, team management, knowledge management, and learning in addition to administrative applications.
Kovach, Fagan, and Magitte	2002	Define e-HRM as web-technology-based conduit; offer the managers and the workforce of the organization with information as well with the capability to finish HR-related transactions
Kettley P and Reilly P	2003	E-HRM as defined by is a computerized human resource information system (CHRIS) and consists of a fully integrated, company-wide network of HR related data, information, services, databases, tools and transactions. Such a system can be described as e-HR, meaning the use of traditional, web and voice technologies to develop the HR administration, transactions and process deliverance.

Author	Year	Definition
Lengnick-Hall and Moritz	2003	Where HRIS were directed to help the HR experts in delivering their HR tasks, electronic HRM (e-HRM) applications are, beside directed to carry HR professionals in performing their HR tasks, and also directed to support managers and employees completion of their HR jobs. E-HRM implies to conducting business transactions - in this case HR - using the internet
Bulmash, J.	2004	Human resource technology can be elaborated as any technical knowhow that is used to attract, recruit, retain, and maintain human resources, facilitate HR administration, and optimize HRM.
Bondarouk & Ruël	2004	E-HRM as an approach of executing human resource management (HRM) strategies, policies and practices in establishments through a deliberate and directed support of, and/or with the full use of, web-technology based conduits
Van den Bos & van der heijdeen	2005	Electronic human resource management system (e-HRM) is to facilitate human resource management through application of web technology.
Bondarouk & Ruël	2006	E-HRM, where employee and employers, through e-HRM, are able to communicate about HR content more effectively
Uman ID	2006	Electronic human resource management system (e-HRM) is revamp and automation procedure by which the HRM function can pay attention on delivering value to the business. It is a perception through which HR information and process support self-service mode of service delivery, and is made accessible over the internet or intranet so that workforce can utilize and inform.
Strohmeier	2007	e-HRM is the planning, execution and implementation of information technology for both networking and supporting at least two people or unified actors in their shared performing of HR actions
Van Veldhoven	2007	E-HRM could be intently defined as the administrative support of the HR department in business by using internet technology, but also emphasize the significance of understanding that the beginning of e-HRM may lead to alteration in fact and positioning of the HR function.
Shane	2009	Electronic human resource management system (e-HRM) is seen as the connection between human resource management and information technology. It combines HRM as a discipline and in particular it's basic HR activities and processes with the information technology function
Bondarouk & Ruël	2009	An umbrella term encompassing all possible integration mechanisms and contents between HRM and information technologies, intending at generating value within and across the organization for targeted workforce and management.
Varma S	2010	In cases where a business deliberately and in a focused way prefers to put in place web technology for HRM purpose, based upon the thought that management and workforce should cooperate and play an active role in delivering out HR work, we can have a thought of e-HRM.

Source- Literature review by scholar

2.2 Types/Levels of e-HRM - Lepak and Snell (1998) made difference in HRM services, namely operational HRM, relational HRM and transformational HRM. Wright and Dyer (2000) made a parallel dissimilarity in service delivery of HRM services named as transactional HRM, traditional HRM, and transformational HRM. Martin et al. (2008) emphasized that e-HRM can be classified as per three perspective namely operational HRM, relational HRM and transformational HRM. Same was vindicated by Bondarouk and Ruel (2006) as well as Strohmeier (2007) and they identified different types of e-HRM and referred to them as end result. These end result included operational, relational and transformational.

Lengnick-Hall and Moritz (2003) view e-HRM development slightly differently to other authors. They purport that e-HRM develops through three main waves within an organisation. The most simplistic 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 organisation.

As per Bieasalski (2003), e- HRM offers opportunity to automate administrative HR-task and to optimize value creating HR- activities. Three levels of development can be distinguished as web-presence HR, web-enabled HR, web-energized HR. The first level "web presence" means that parts of the e-HRM-solution are present. Web-enabled means that all parts of the e-HRM solution are present and can be availed online. The third level describes more proactive e-HRM-solution that is fully implemented, can be accessed online and is used optimally by employee.

TABLE-2.2: Levels of e-HRM

Researcher	year	Level 1	Level 2	Level 3
Lepak & Snell	1998	Operational	Relational	Transformational
Wright & Dyer	2000	Transactional	Traditional	Transformational
Lengnick-Hall & Moritz	2003	Publishing	Automation	Transformation
Bieasalski	2003	Web-presence	Web-enabled	Web-energized
Bondarouk & Ruël	2006	Operational	Relational	Transformational
Strohmeier	2007	Operational	Relational	Transformational
Martin, Reddington & Alexander	2008	Operational	Relational	Transformational

Source – Literature review by scholar

From table -2.2 it is obvious that there is unanimity among the researcher regarding level of e-HRM as operational, relational and transformational, as originally conceived by Lepak and Snell (1998).

2.2.1Transactional/Operational/Web-presence HRM- As per Lepak and Snell (1998), operational human resource management is concerned with streamlining processes. It engages basic administrative HR actions such as compilation of personnel data, payroll, publishing of information, which was earlier face-to-face now, offered through web-based technology. According to Bondarouk and Ruel, **(20**06) "for operational HRM, the establishments requires to decide whether or not workforce will keep their own personal information up to date via HR website, or whether this will be done physically/manually by administrators". As per Shane (2009) the one-way communication from the organisation to its staff is characteristic of the first form of e-HRM, which engages merely publishing information. Intranets are the prime information delivery means for this and incorporate generic content such as the organisation's policies and actions and measures. This is time and again expanded to inculcate more personalised information such as vacancies. This type of e-HRM is in itself particularly valuable to establishment as it allows for more cost-effective spreading of information by cutting down on printing costs. Alteration to information can be uploaded as and when required so that users can access up-to-date, pertinent information when required.

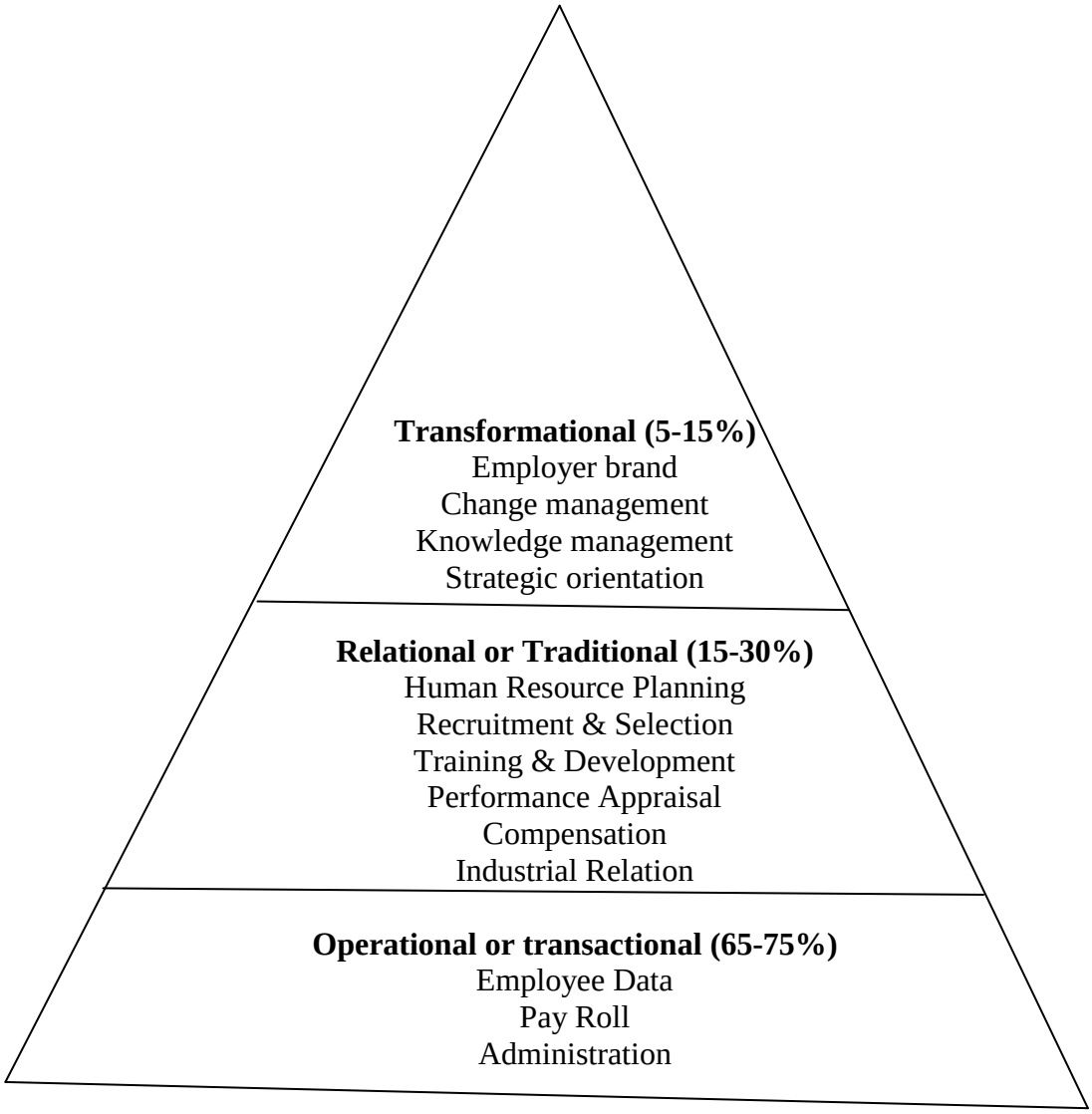
2.2.2 Traditional/Relational/Web-enabled HRM- According to Bondarouk and Ruel (2006), "with relational HRM, there is a choice of whether to perform additional intricate HR practices, like recruitment and selection using e-HRM, or to use a more conventional paper-based approach such as newspaper advertisement and paper-based application form". According to Strohmeier (2007), relational HRM concerns the interface and networking of the different HRM stakeholders. As per Lengnick-Hall & Moritz (2003), relational e-HRM also engages the automation of transactions (internet in place of pen and paper) through application of intranets and extranets, HR portals, employee self-service and manager self-service, and operates with numerous application programmes. These technologies develop relationships between users of the systems. As per Bondarouk and Ruel, (2006), the stress of relational HRM is not on the administration of HR processes, but rather on the mode in which HR tools carry basic business

processes such as performance management and recruitment and selection. The relational HRM, deals with more advanced HRM activities is viewed as the second, more complex form of e-HRM. The stress here is not on administering, but on HR instruments that support fundamental business processes such as recruiting and the selection of new staff, training, performance management and appraisal, and rewards**.**

2.2.3 Transformational / Web-energized HRM- Transformational HRM is the top-level and the most multifaceted form of HRM. According to Lengnick-Hall and Moritz, (2003), HRM shifts from a transactional to a transformational focus, whereby the human resource functions are relieved of the operational duties and redirected en route for more strategic capability. These types of job contain: strategic partnering with the business, developing centres of proficiency and administration of service centres. According to Bondarouk and Ruel (2006) "when using e-HRM for strategic, transformational purposes, it is probable to form a change-ready work force via an integrated set of web-based tools that enables the personnel to grow in line with the organisation's strategic choices".

2.2.4 Implementation Pattern of e-HRM-According to Wright and Dyer (2000), more recently, HR function has had to play a more strategic role in the business. The only way to attain this is to reduce much of the burden of transactional human resource activities. In order to free up time so that HR can focus on transformational HR activities, expansion and execution of human resource-specific information technology systems is the first step to attain this .Other options available is outsourcing some of the human resource function, but what would be more appropriate to this study, is to utilize information technology in the shape of e-HRM (see Figure -2.2). In addition to this, new systems have been developed that permit management and staff to manage much of their own human resource actions, such as leave application and approval, personal data alteration etc. Thus, e-HRM systems aid in freeing up time for the HR function so that there can be greater emphasis on high-value strategic project

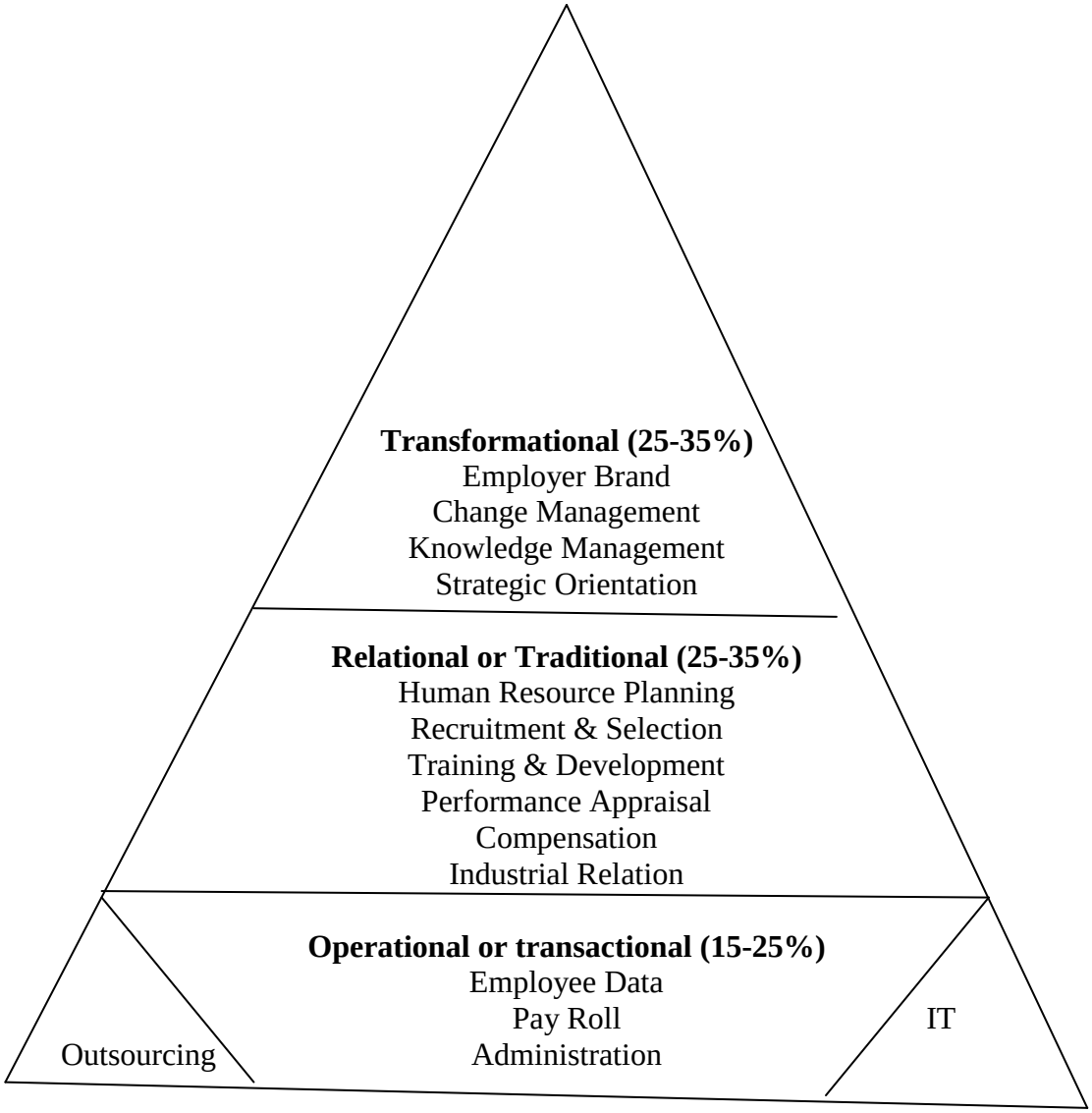
FIGURE- 2.1: Traditional Delivery of HR Services



Source- compiled by scholar

The figure 2.1 and figure 2.2 shows paradigm shift in outlook of HRM function in service delivery from traditional to strategic and time devoted in each level of HRM. From the figures it is fairly clear as HRM function moves to strategic delivery approach, it dedicates less time in operational or primitive level of HR function and maximum time on transformational or highest level. With strategic delivery approach organizations some time reengineer their HR function, opt for outsourcing, and ride on electronic platform and in most cases applies all the three options simultaneously.

FIGURE 2.2: Non Traditional Delivery of HR Services of HR Services



Source- compiled by scholar

According to Bondarouk, T. et al. (2004), "an important feature to keep in mind, is that in reality, a combination of these types of e-HRM are utilised". Actuality E-HRM growth is not a gradual process. Different levels of e-HRM execution are not a mutually exclusive activity but some time at the same time all the three levels are being implemented simultaneously. However, the authors comment that establishing a good transactional foundation is an important basis for relational e-HRM, and effective relational e-HRM should be in place for successful transformational e-HRM. According to Lengnick-Hall & Moritz (2003), while some establishment might take a developmental approach, building up from operational, to relational

to transformational e-HRM in a step-by-step manner, other organisations will make more forceful alterations, moving straight from operational e-HRM to transformational, strategic e-HRM. It seems that the first step in thriving e-HRM is ensuring that decision-makers buy into the fact that the benefits compensate the costs. As per Shane (2009), three types of e-HRM are often used concurrently. Organizations will have elements from each of the types of e-HRM, but in an ideal world, each stage should be developed incrementally, that is, a strong operational basis will enable improved relational e-HRM, which in turn will be advantageous for purposeful transformational e-HRM.

2.3 Delivery Tools/ Instruments-According to Ketlley and Reilly (2003)," technology has only recently developed in a way that enables e-HRM to make its mark, especially the introduction of corporate intranets and web-enabled HRIS and the nature of the development path, however, varies considerably from organization to organization". Kavanagh and Thite (2008) reported that to improve effectiveness and efficiency in terms of service delivery, cost reduction and value-added services, HR departments came under pressure to harness technology that was becoming cheaper and more powerful. Sanayei and Mirzaei (2008) in empirical study aim at providing an explanation of e-HRM and introducing its activities and tools, after the investigation, the effect of various independent variables such as job satisfaction, professional commitment, and organizational commitment on the effectiveness of HRM as a dependent variable. E-HRM tools such as intranet, extranet, HR portals; integrated HR suite software is rarely used, however according to expert's judgment if they are used, they would have a positive effect on HRM output in Iranian organizations. As per Florkowski and Olivas-Lujan (2006) "diffusion patterns of eight information technologies that are transforming HR service-delivery in North America and Europe are HR functional applications, integrated HR suites, IVR systems, HR intranets, employee and manager self-service applications, HR extranets, and HR portals". The overall diffusion was best characterized as an outgrowth of internal influences, fuelled primarily by contacts among members in the social system of potential adopters. Companies in the 21st century can be broadly said to have adopted at least one of the above mentioned e-HRM technologies.

Foster et al. (2004) describe that the application of the internet to the human resource function combines two elements; one is the use of electronic media while the other is the active participation of employees in the process. As per Bondarouk, T. et al. (2004) "organisations need to embrace the e-HRM revolution which relies on cutting edge information technology, ranging from internet-enabled human resources information systems (HRIS) to corporate intranets and portals". According to Biesalski (2003), e-HRM "is a web-based tool to automate and support HR processes". Kettley and Reiley (2003) states that a computerized human resource information system consists of a fully integrated, organization wide network of HR-related data, information, services, databases, tools and transactions. Technology has only recently developed in a way that enables e-HR to make its mark, especially the introduction of corporate intranets and web-enabled HRIS. According to Lengnick-Hall, and Moritz (2003), "the final stage of total digitalization' in the 1990s arrived when HR professionals and ICT specialists joined forces and developed electronic information systems that moved HR decision making from drawers to computer".

As per Watson Wyatt's (2002) survey of HR technology issues revealed that a wide variety of HR and payroll systems are being used today. According to the results of the study, web technology is the predominant method for delivering HR-related services to employees and managers, and offers significant opportunities to improve communication, knowledge sharing and HR delivery systems In the views of Wright, M. et al. (2001), "e-HRM refers to the processing and transmission of digitized information used in HRM, including text, sound and visual images, from one computer to another electronic device".

2.3.1 HR Functional Application (HRFA) – According to Florkowski and Olivas-Lujan (2006), HRFA are software-enabled automation of separate jobs and responsibilities to the HR department. Application software is a defined subclass of computer software that utilizes the competence of a computer directly to a duty that the user wishes to execute. An HR functional application implies software for a particular action or group of actions. Most common functional applications existing for the diverse tasks are benefits administration, personnel tracking and payroll, recruitment and selection, leave and attendance, payroll, benefit management, Performance appraisal, labor relations advisory, occupational health and safety module. As stated

by Doughty (2000), today, within the HR software market there are a myriad of HR systems, payroll, training administration, 360 degree feedback, psychological testing and competency software tools operating in their own software features.

Figure-2.3: HR Software Application Functionality

<table>
<tr><td>Reward & Benefit Administration</td><td rowspan="2">Time - Office Leave &Attendance</td><td>Applicant Tracking System</td></tr>
<tr><td>Employee Tracking</td><td>Performance Review</td></tr>
<tr><td>Payroll</td><td rowspan="2">Scheduling of Work Force</td><td>Learning/ Knowledge Management</td></tr>
<tr><td>Foundation/Core HR</td><td>Employee Management</td><td>Transformational/ Strategic HR</td></tr>
</table>

Source- compiled by scholar

As per Software Advice (2014), foundation/core HR includes the three traditional human resources management functions: reward and benefit administration, employee tracking and payroll. Employee management, scheduling of workforce, leave and attendance also comprises the range of software solutions intended to effectively plan and track the employee and include applications to track time and attendance, monitor conformity with labor laws, and usually include payroll functionality, or integrate well with other payroll software. Strategic HR includes growing company by attracting and developing the best people, as well as better managing employees overall. Strategic HR applications usually present some arrangement of applicant tracking and recruiting, learning management, as well as performance evaluation functionality. This type of software reorganizes these strategic processes to guarantee that a company is using its employee as efficiently as possible, and also that employees are abiding to grow and develop by increasing employee satisfaction and retention rates.

2.3.2 Integrated HR Software Suite Application (ISA) – As per Wikipedia (2014) integrated software is that combines the most frequently used functions of many productivity software programs into one application. According to Florkowski and Olivas-Luján (2006) ISA is

numerous applications clubbed together as a package are called as an application suite. The disconnected applications in a suite typically have a user interface that has some commonality making it easier for the user to learn and use each application. And often they may have some ability to interact with each other in ways beneficial to the consumer. Integrated software suite application (ISA) can be compared with system software which is occupied in integrating a computer's diverse capabilities, but typically does not directly relate them in the performance of jobs that benefit the users. ISA delivers business intelligence with analysis including, online analytical processing (OLAP), data mining, extract, transformation, and data warehousing, and reporting. This helps attain optimum levels of capability and providing total control of all HR portions by integrating all organization and staff data to offer information on every aspect of the operations right from staff policies to payroll processing. This also create all-inclusive reports that extend the entire spectrum of the database.ISA has lot of influence over HR functional application like, improved navigation, flexible functionality, simplified data management, efficient communications, integrated reporting, and shared environment and speed to value. As per Software Advice Portal (2014), of course, core HR personnel management and strategic HR functions often have common characteristics. While there are best-of-breed solutions for individual functions in every team, there are also integrated suites boasting across-the-board functionality.

2.3.3 Interactive voice response (IVR) – As per Webpedia (2014), interactive *v*oice response, is a communication technology in which somebody exercises a touch-tone phone to interact with a database to obtain information or go through data into the record. IVR technology does not need human interface over the phone as the user's interaction with the database is programmed by what the IVR system will permit the user access to. As per Wikipedia (2014) interactive voice response (IVR) is a technology that permits a computer to network with humans through the use of voice and duel- tone multi- frequency-signaling (DTMF) tones input via keypad. Florkowski and Olivas-Luján (2006) states IVR system directs telephone calls involuntarily to targeted receivers or footages by pressing touchtone buttons. IVR permits workforce to network with a company’s host system via a phone keypad or by tongue recognition, after which they can service their own exploration by following the IVR conversation. HR function afterward influences this technology to assist telephone-driven utilization of such services as benefits

enrolment, training enrolment, employee declaration, work-related studies etc. External parties and organizations are also able to confirm employee standing or income levels by calling the suitable numbers. IVR helps in automation of processes, serve staff after standard business hours, improve worker service, lower call centre costs, and prioritize workers, so pressing calls are handled speedily.

2.3.4 HR intranet applications (HRIA) – As per Weidenhammer (2013) "an intranet generates a single, protected warehouse for all confidential human resources information and procedures". It can offer an easy-to-navigate environment that is reachable by all workforces, despite where they are located or which computing platform they are using. Employees have instant admission to the most recent information. An intranet can help workers swiftly find the information they need. Employees aren't overwhelmed by burdensome instruction booklets, and they save time searching because they don't have to wade through pages of inappropriate information. To make things even more efficient, workforce can enter data online. This data can be involuntarily integrated into back-end information systems, so it can be validated on input, eliminating errors. In addition, the human resources staff does not have to re-enter employee data, freeing time for other more vital tasks.

Accordig to Florkowski and Olivas-Lujan (2006) HRIA is private computer network that provides workers with direct entry to link internal database and /or a seamless interface with the internet. It is a network intended to systematize and share information and bring out digital business dealings within a company. An intranet utilizes applications linked with the internet such as web pages, browsers, e-mails, newsgroups and mailing lists but is available only to those within the business. HR Intranets offer the most innovation to HR departments since the beginning of the desktop computer. As per Sanayei and Mirzaei (2008), **"**as intranet usage proliferated worldwide opportunities emerged to utilize e-mail and electronic-form software to reduce the costs of data entry for payroll, benefits administration, training administration etc".

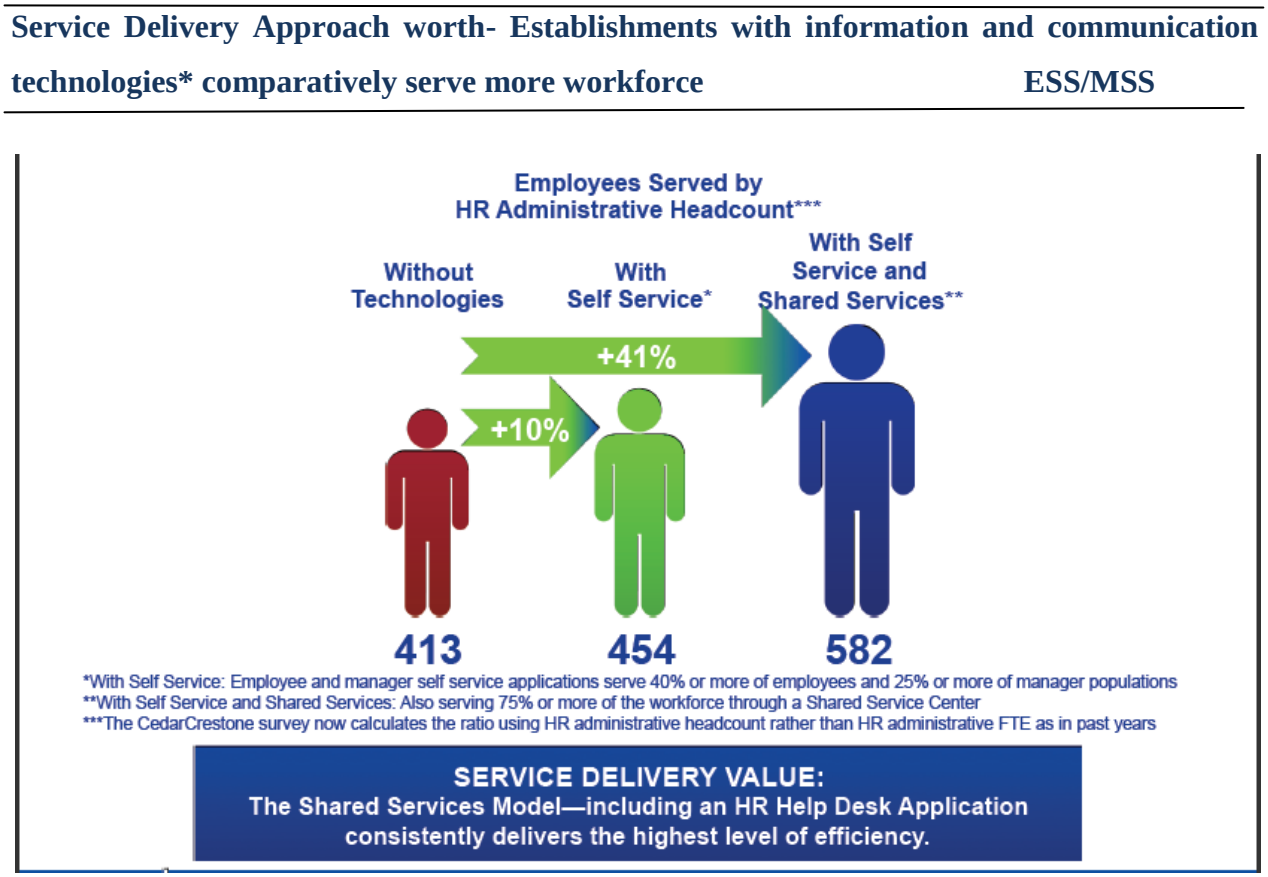
Rodgers, K. (2009) purports, the term HR intranet means diverse things to different people, but it's really about using your internal IT network to converse and work together. An HR intranet generally supplies self-service access to your central HR systems so managers and staff can input

individual data and transmit out transactions online, such as booking training courses. Some firms also have sophisticated workers portals on the front – a sort of internal home page where workers go to log on to different IT systems and get information. HR self-service capability is typically provided as an add-on to your HR management system.

HR intranet assists improvement in data quality, empowerment of employee, decline in paper consumption, streamlining process, quick spreading of valuable information on a wide range of topics, enable employee to perform various task, links employee and standardizes HR practices.

2.3.5 Self-service (SS) Application- As per CedarCrestone HR Systems Survey Report (2013–2014) with self service 10% additional workforce can be served and 41% more workforce can be served with self service and shared service when compared to service delivery tools without these technologies

Figure-2.4: Self Service and Shared Service (Service Delivery worth)



Source- CedarCrestone (2013), "CedarCrestone 2013-2014 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics" – 16th Annual Edition, Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2013-HRSS-HRTech-100713.pdf

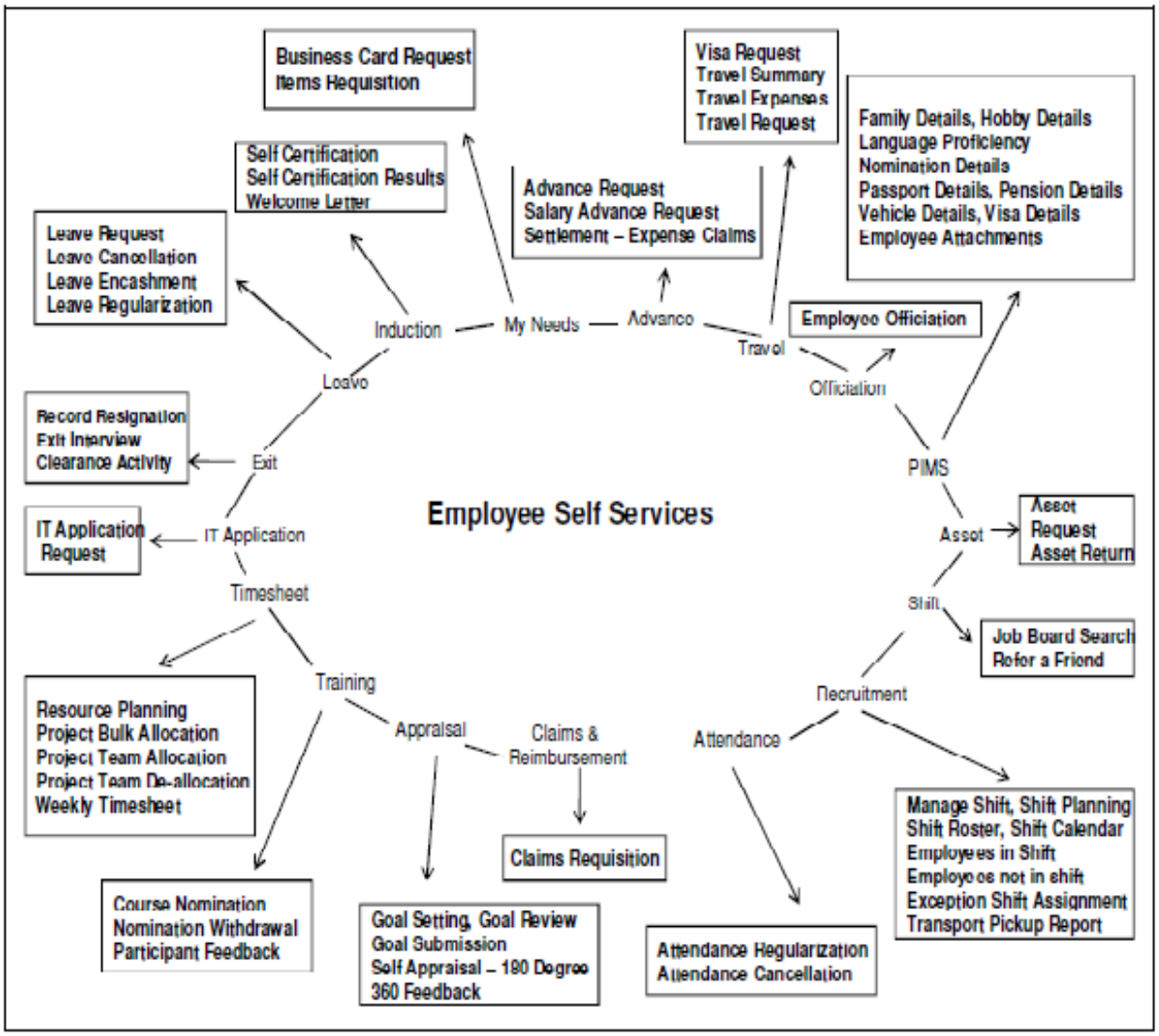
Self-service application can be broadly classified in two ways.

2.3.5.1 Employee Self-Service (ESS) Application- As per Ulrich (1997), "while attempting to make strategic changes within the human resource function, HR professionals must still bring good HR services to their stakeholders who include employees and managers". One of the most important elementary beliefs in managing human resources is promoting employment relationship so that workforce may feel connected to their work and contribute willingly to the success of the organization. As per Keebler & Rhodes (2002), there is acceptance of the fact that the workforce of a business is just as important as its clients, and therefore need to be kept satisfied and motivated. This can be obtained by improving HR service delivery. According to Ketlley P, and Reilly P (2003), before embarking on e-HRM, companies should evaluate and optimize their business methods. This may be a case of major process revamp, or a more tactical workout handling areas of worry. Following a process review, a common next step is to introduce a form of self service. This is likely to engage employee self service, where staff can access their personal file and update it or add new information. Keebler & Rhodes (2002) go on to argue how, while improving HR efficiencies is the major focal point in e-HRM technology devise, it should also support in making e-HRM technology more client-friendly. This should enhance the service experience of the managers and staff. In this way, a client service progress of the HR system can be achieved.

Florkowski and Olivas-Lujan (2006) mentions ESS is a software-facilitated set of HR dealings that can be initiated and completed without direct involvement of HR staff. It is a web-based application tool that provides employees with access to their personal records and their payroll details. It enables employee self-service and provides access to a comprehensive employee database. The employee database acts a centralized repository of vital employee related information made available to HR, workforce and executives. Its inherent employee self-service

capabilities ensure that this data remains current without tedious data entry by HR. The employee self service is the stand on which all other functional modules can be added to create a complete employee self service based HR system. .The employee self service pay an important role in working time and schedule, individual information, training and performance management, life events, benefits, careers, time off from work. With ESS employee can view and avail pay slips, abstract of year's earnings and deductions, loan statement, PF statement, settlement statement, income tax (IT) declaration, statement and calculator, reimbursement claim workflow, ticketing, leave workflows.

FIGURE-2.5: ESS- In Nut-Shell



SOURCE- Varma S., Gopal, R. (2010), The implications of implementing electronic human resource management (e-HRM) systems in companies, research thesis, Dr. D. Y. Patil University**,**. Maharashtra.

2.3.5.2 Manager Self-Service (MSS) Application- According to Adamson and Zampetti, (2001), "the objectives of manager self-service include improvement in the delivery of HR services, elimination of process steps, approvals and forms, speeding up and streamlining of workflow, reduction in administrative costs, improvement in management's access to important information, providing more time, and finally, enabling strategic HR". Manager self service provides managers with the tools needed to efficiently perform employee administration, as well as the information needed to help employees improve performance and enhance their skills. Manager self service transforms managerial activities from manual, paper-based processes with multiple levels of approval to a web-enabled, self-service system, it allows both managers and employees to stay focused on improving performance and simultaneously minimizes unnecessary human resources involvement in manager-employee interactions, increasing organizational efficiency.

As per ADP Employease (2013), it has been seen that line managers are irritated by the fact that they are one step behind from information or they have only secondary information not primary. Manager self-service puts the information managers need at their fingertips giving them the ability to more closely monitor and direct their team towards the strategic goals of the organization.. Manager self-service application leverage its utility in employee information, organization and staffing, employee time and schedule, employee leave and stability, evaluation of employee competencies, compensation management, timely performance reviews and development processes. It also facilitates new-hire initiation, reporting, competency gap analysis, employee training and development, automated workflows, organization charts, status changes, review and approval of timecards and leave requests, budget and cost centre, delegation of authority at the appropriate level and time, project management, administration, PF funds & gratuity management.

According to Ketlley P, and Reilly P (2003*), "*manager self service is usually a logical development, allowing the sign-off of various decisions or proposals and redesigning the HR function with impact on the roles and skills of HR staff". There will be many areas of up skilling as the move away from transactional work gathers pace. This will stretch the capability of staff, not just in terms of technological facility but also in customer and relationship skills. As per Florkowski and Olivas-Luján (2006), "MSS is a software-enabled set of HR transactions by managers that can be initiated and completed without direct involvement of HR staff".

2.3.6 HR Extranet Application (HREA) – As per Murugan et al. (1988), "extranet is the electronic computer-to computer transfer of information in a planned format that can occur between business trading partners, vendors and between various units within an organization". Accordig to Florkowski and Olivas-Lujan (2006), HREA application is a private computer network that connects the information system of client-firms to external merchants delivering co-sourced or outsourced HR service. HR extranets really act as conduits for electronic commerce between client firms and HR merchants or a business-to-business (B2B) market for HR services. Two different business models can administer these associations. In the first one, the HR function shares workforce data with merchants who use the information to effectively manage HR services under their stewardship. Lacking authorization to communicate with vendors, employees continue to go to their employer to renew service choices, revise personnel records, and voice complaints about services rendered. The second model saddles merchants with broad accountability for database management and service administration. Here, employees use the extranet to directly initiate or modify service delivery from external suppliers.

Flanagan (1997) state, extranet assists the swap and processing of high volumes of data from one computer to another. Extranets have been used by workforce to communicate with merchants, service providing partners, and various other audiences who contribute to the operating efficiency or to the bottom line. As per HRCentral.net (2013), HR extranet has application with staff training, management training and coaching, legal compliance, salary, benefit and payroll administration, personnel file, health and safety programs, unemployment claims management etc.

2.3.7 HR portal applications (HRPA) – As per Microsoft business solution (2012) a portal is an integrated place that join people to contextually pertinent information, services, and applications. Accordig to Florkowski and Olivas-Luján (2006) "HRPA is website interaction that offers a personalized unified access point to all information sources, devices, and systems individual needs to effectively consume or deliver HR services". The range of work-related data and actions that one can link to is role driven. In some instances, employees have the ability to interact directly with external merchants feeding to personal needs and interests. Portals are highly configurable through code modules. As per Microsoft business solution (2012) HR portal can afford HR-related substance and applications to those who need it—those assigned to the staff, manager, payroll administrator, and human resources administrator roles.

As per Quikker (2008) HR portal solutions offer entrée to additional process based tools and applications that facilitate staff to achieve major efficiencies in their work and HR Portal now becomes a habitual tool for employees to manage all of their work related tasks, from requesting a holiday; through managing their performance and development, as well as providing access to improved communication tools to enable collaboration. Through better understanding of organizational objectives, and how they can contribute, staff becomes more engaged and aligned and more productive. The capability for integration offered by HR portals represents another shift in value by protecting existing investments in systems and processes. With an HR portal 'synchronized' to other systems within the business it now becomes the single point of integration for company information and presents an option for employee self service – single sign-on /single data-entry.

HR Magazine, editorial content (2010) states personalization, online decision support, tools designed to help workers compare benefits plan features, realize insurance coverage relating to specific events and estimate medical costs while enrolling via portals is highlights of portal application. HR portal give employee a consultant while reducing the volume of e-mail and calls to HR staff members for help with benefits decisions. Video is also playing a more prominent role on HR portals. Latest portal is helpful for member of staff to be able to navigate to all of those areas seamlessly to complete transactions without receiving multiple login prompts. As HR portals continue to progress, many experts say the subsequent wave will feature social

networking-type tools that promote workforce to share proficiency, join communities of practice or connect in other ways. Kluemper, D and Rosen, P. (2009) states, indeed, social media, or web 2.0 as a lively set-up has been suggested by some scholars to be the budding technology that will have a major effect on HR. Firestone (2003) states HR portals are vehicles through which HR information and applications can be channelled effectively and efficiently. As per Cascio (2000) and Collins (2001), through HR portals, employees can update own administrative activities and may have also have right of entry to customized and personalized news, resource applications, and e- commerce options. Through HR portals managers can proficiently create reports, scrutinize employee activities and supervise their own activities.

Table-2.3: E-HRM Tools at a Glance

Tools	End-user	Purpose	Common features	Activities for end-users
HRFA	HR staff	Software-enabled automation of discrete jobs and responsibilities to the HR function.	Lack of uniting parameters across software products	Keeping personnel details, administration, monitoring in line with human resource planning, recruitment and talent management and other life event objectives
ISA	HR staff Internal customers (if self-service apps implemented)	Compilation of human resource functional applications traded as unit	Ability to share data among applications. Each functional application is full-featured and can stand alone	Management of life events from hire to retire Talent management, Performance management Stakeholder management
IVR	Internal + External applicants	Software facilitated phonetic configuration that permits callers to contact work-related information and/ or input data through audio or telephone-keypad instructions.	Electronic voice mail Data-entry ability to support select HR activities or to respond to organization surveys	Access company announcements, Benefit-plan enrollment, Training registration, Applicant testing and elementary bio-data compilation, Employment/income authentication by certified external parties
HRIA	Internal + External applicants	Private computer network that offers workforce with direct entrée to linked internal database and/ or a seamless interface with the internet.	Online publishing of policies, brochures and forms, Online postings of employment vacancies	Review of staff information in HR databases, Online tracking of retirement-plan performance, Online assessment of potential health care providers for benefit plan determinations

Tools	End-user	Purpose	Common features	Activities for end-users
ESS/MSS	Internal customers	Software-facilitated set of HR transactions that can be started and accomplished without direct association of HR staff.	Highly configurable regarding the range of automated HR transactions, Role-inhibited access to particular HR transactions	Directly updating individual information in HR databases, Online proficiency testing and training listing Creating, following , and administering open job request, Granting base-remuneration increase and tracking decisions against sanctioned budget
HREA	HR staff + Internal customers (if Authorized)	Private computer network that connects the information system of customer-firms to external sellers conveying co-sourced or outsourced HR service	Firewalls restricting external access to "shared "HR" data	Updating individual information alteration in databases managed by outer merchants, Online oversight of medical helps, annuity administration
HRPA	Internal customers HR staff	Website interface that provides a tailor made unified entrée point to all information sources, tools, and systems person requires effectively consuming or delivering HR services.	Role-confined right to use data stores, applications and systems	Online shopping for discounted offerings from a pre-configured network of exterior goods and service merchants

Source- Florkowski, G. and Olivas-Luján, M. (2006), "The diffusion of human-resource information-technology innovations in Us and non-Us firms*", Personnel Review*, 35 (6), pp. 684 – 710

2.4 Strategic Orientation- Lepak & Snell (1998) argue that the true value of the HR function is when it helps the organization to achieve competitive advantage, for example, through the development of core competencies. Human capital, according to Walker (2001), is the last remaining competitive advantage in business. In order to gain a competitive advantage, the way in which these human resources are managed has a need to change. As per Rowden (1999), the paradigm shift from the administrative aspects of HRM led to the emergence of strategic HRM as a new generation of value-added core responsibility or function of HRM. According to Lawler & Mohrman (2003), the HR function can and increasingly is making significant contributions to building an organization that is staffed by the right human capital to carry out the work of the firm and enable the accomplishment of business strategy.

As per Wei (2006), strategic HRM reflects a more flexible arrangement and utilization of human resources to achieve organizational goals, and accordingly helps organizations gain competitive advantage. According to Foster (2009), the role and activities of the HR function in an organization are likely to be strongly influenced by the organization's competitive strategy. For example, if the organization has a competitive strategy that requires it to be a low cost operator, then it is likely that the role of HR will be to provide basic services and compliance at low cost, with an emphasis on basic services. Likewise, if the strategy is based on differentiation, then a focus on innovate products is likely to support an emphasis on people management, leading to higher levels of investment in employee development and career management, with a higher profile for the HR function. Lawler & Mohrman (2003) see HR's greatest opportunity as being in the development and implementation of corporate strategy, by helping the organization to develop the necessary capabilities.

2.4.1 E-HRM as Strategic Enabler- Sanayei, and Mirzaei, (2008), "technology-enabled model of HRM is frequently started as an cost cutting program, but it quickly progressed into a foremost medium of competitive edge and in the mean time human resource function of few organizations utilize some virtual HRM utilities, others try hard to reengineer, computerize and incorporate almost all of their HRM activities". Walker (1992) states human resource strategies are departmental strategies like marketing, operations or information technology strategies, however these are unlike in the logic that they are entangled with all other strategies in the establishment. E-HRM operates as an instrument that assists human resource management in attaining strategic edge. As per Wang and Mobley (1999), in an organization three HR strategies for global technology innovation and rapid organizational development were proved to be effective for integrating person-system-organizations elements: personnel strategy, system strategy, and organizational strategy. As per Bieasaliski (2003) the HR-department can focus more on the qualitative tasks in human resource planning like coaching and consulting. By sharing information and being knowledgeable business partners are able to act more productively to maintain the association over time. That is, relationship strength can create a competitive advantage through the strategic sharing of a company's key information.

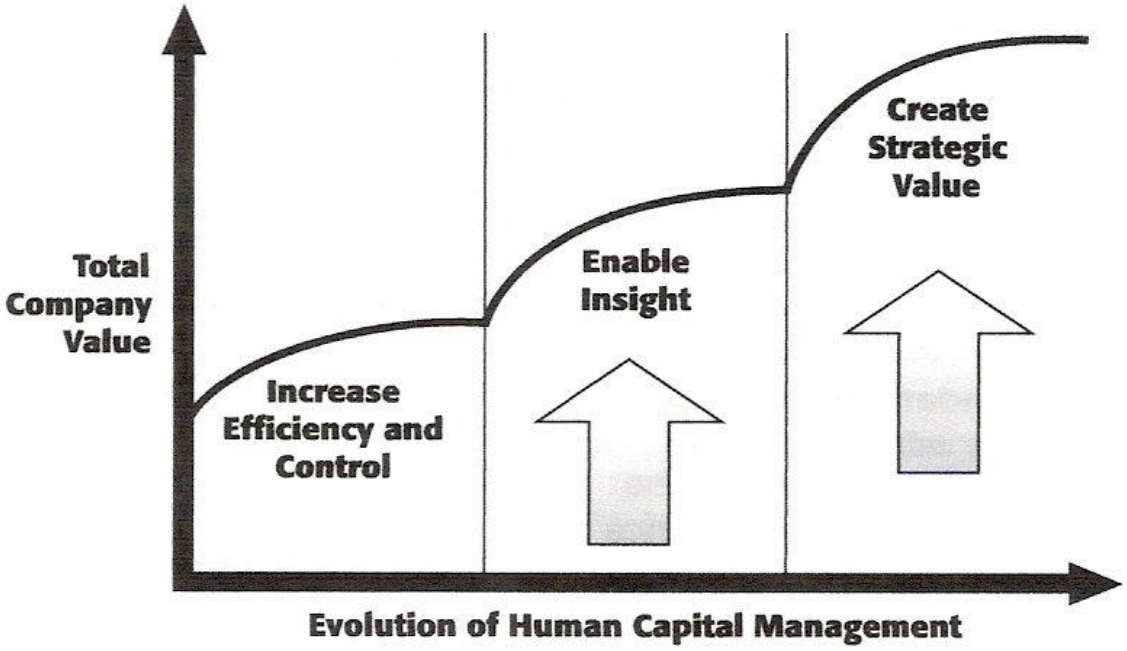
Beckers and Bsat (2002) pointed out increase in competitiveness by improving HR practices and shift the focus of HR from the processing of transactions to strategic HRM are the few reasons why companies should use HRIS. Wang (2005) describes the need for technology innovation and HRM integration. The development of e-HRM systems is growing, allowing the HR function to become more strategic. Ruel, Bondarouk and Velde (2007) have conducted a research in the Ministry of Internal Affairs in the Netherlands, where e-HRM in the form of employee self-service applications was introduced. The study shows that individual assessment of e-HRM applications influences HRM technical and strategic effectiveness. Hussain, et al. (2007) states, few differences existed between Small/Medium (SME) and large company. HRIS usage and that specific use of HRIS for strategic collaboration enhanced professional standing.

Bell. Lee, Young, (2006) examines information technology has been cited as a critical driver of HR's transition from a focus on administrative tasks to a focus on serving as a strategic business partner. This strategic role not only adds a valuable dimension to the HR function but also changes the competencies that define the success of HR professionals. Panayotopoulou, et al. (2007) analyses and discusses the development of e-HR use in Greece and the reason for adoption of e-HR practices focusing on strategy process and HRM issues. Finding shows that e-HR facilitates the transformation of HRM role into a strategic one.

According to Tanya B. and Ruel, H. (2010), examinations of recent e-HRM literature classify strategic benefits prescribed for e-HRM as generation of HR metrics to support strategic decision making, freeing HR staff from administrative burdens and allowing them to undertake strategic people-management activities, transforming HR professionals from administrative paper handlers to strategic partners, the branding of organizations. As asserted by Ketlley and Reilly (2003), technology has only recently developed in a way that enables e-HRM to make its mark, especially the introduction of corporate intranets and web-enabled HRIS. Before embarking on e-HRM, organizations should review and optimize their business processes. The development of e-HRM systems is growing, allowing the HR function to become more strategic. According to Aghazadeh (2003), HR professionals need to integrate their knowledge of core HR functions with the economic and business environment within which they work, and also keep abreast of technological developments. By doing this, HR professionals will be able to have a strategic

impact on their organizations. Fletcher (2005) traces the transformation of human resources from manual processes to sophisticated CRM and ERP systems and examines the effectiveness of online strategies for attracting talent. CedarCrestone (2013) HR Systems Survey report with HR technology organizations with more HR Technology are able to achieve high cost efficiency and able to align HR and business strategy resulting in competitive advantage.

Figure -2.6: Evolution of Human Resource to Human Capital Management in Business



Source- Fletcher, P. A. K. (2005), "From personnel administration to business-driven human capital management: The transformation of the role of HR in the digital age", In H. G. Gueutal & D.L. Stone (Eds.). *The brave new world of eHR: Human resources in the digital age.* Books 24×7.com: Jossey-Bass.pp. 1-15.

2.4.2 Administrative Burden Reduction- As per Sacht, J. (2003), it is clear that HR must find a way to relieve itself of administrative burdens (without abdicating their administrative role) in order to maximize its contribution to business strategy. As per Wright & Dyer (2000), HR function has had to play a more strategic role in the organization. The only way to achieve this is to relieve much of the burden of transactional human resource activities in order to free up time

so that HR can concentrate on traditional and transformational HR activities. This is done either by outsourcing some of the human resource function, but what would be more relevant to this study, is to utilize information technology in the form of e-HRM. New systems have been developed that allow management and employees to manage much of their own human resource activities, such as leave application and approval, personal data changes etc. Thus, e-HRM systems aid in freeing up time for the HR function so that there can be greater focus on high-value strategic initiatives.

As per Matman (2006) e-HRM technology should free up the HR professionals from time-consuming administration activities. This should enable HR professionals to spend more time on strategic activities and the delivery of important HR activities face-to-face. It is therefore expected that the use of e-HRM implies a change of the job content of the HR professional to strategic partner. Ulrich (1997) mentions, as technology frees up HR from some of its routine tasks, there is a greater opportunity for HR professionals to become a strategic partner. According to Lawler and Mohrman (2003), the link with the implementation of e-HRM technology that the technology frees up time in the HR organization which can be spent on the activities related to the strategic role of HR.

The committee Rijn Van (2001), concluded that the different HR functions of the different parts of the public sector should be integrated into a single shared service centre. IT should enable the integration of the dispersed HR function and therefore could be HRM goal for the adoption of e-HRM technologies within the Dutch MIA. As per Matman (2006), the use of e-HRM technology is expected to lead to changes in times spent by HR professionals on specific HR activities. This change is driven by the new HR architecture where employees and managers are expected to have more HR responsibilities According to Huselid (2004), some organizations strive to free HR professionals for more strategic tasks. HR professionals are enabled to spent more time on strategic aspects of HRM when are freed from administrative day-to-day activities.

2.4.3 Change Management- According to Gloet and Berrell, (2003), "the development of information and communication technologies (ICTs) has radically changed our social and economic lives, and has had a profound effect on the way organizations are managed".

According to Hitt and Brynjolfsson (2000), "ICT enable firms to introduce organizational changes in the areas of re-engineering, decentralization, flexible work arrangements, outsourcing, lean production, teamwork, customer relations and it also allows firms to produce with greater flexibility and shortened product cycles to satisfy shifting consumer preferences and in turn, these organizational changes are essential for realizing the full benefits of ICT".

According to Matmann (2006), the new HR architecture where employees and managers are expected to have more HR responsibilities. In the mean time it is expected to lead to changes in the time spent by HR professionals on IT activities, administration activities, supporting managers and employees, and strategic activities. According to Arnal et.al (2001), the incidence of organizational changes is much higher in the firms that invest in ICT or have high share of workers using computers than is the case in the firms that do not invest in ICT or have low share of workers using computers.

According to Thite et al. (2008)," historical analysis of trends showed the role of e-HRM in the company has changed over time from being primarily concerned with routine transactional HR activities to dealing with complex transformational ones". According to Lawler III & Mohrman (2003), "a dramatic change in the employment law arena is forcing Human Resources (HR) to transform its own operations, and its strategic role in contributing to the success of business of all size".

2.4.4 Knowledge Management- As per Biesalski (2003), at first the growing attention of companies on the factor knowledge is mainly driven by the evolution of information technology. Information systems like e-HRM solutions that network information, enable companies to get a consistent concept for their knowledge management.. According to Newman (1991), the availability of new information and communications technology (ICT), particularly the World Wide Web, has been instrumental in catalyzing the knowledge management movement. Knowledge management (KM) is a collection of processes that govern the creation, dissemination, and utilization of knowledge in an organization.

As per Ajiferuke, I. (2003) "information technologies, such as intranets, web portals, and groupware, are often used to facilitate the sharing of knowledge among a group of workers (commonly referred to as a community of practice) in an organization because of their capabilities in extending the reach as well as enhancing the speed of knowledge transfer" .

According to Lengnick-Hall and Moritz (2003), "e-HRM provides the HR function with the opportunity to create new avenues for contributing to organizational effectiveness through such means as knowledge management and the creation of intellectual and social capital". According to Biesalski (2003), a variety of techniques is used in companies to acquire knowledge, to organize knowledge and to make knowledge transparent. At the moment ePeople organizes the competency tree as a simple tree data structure in its database.

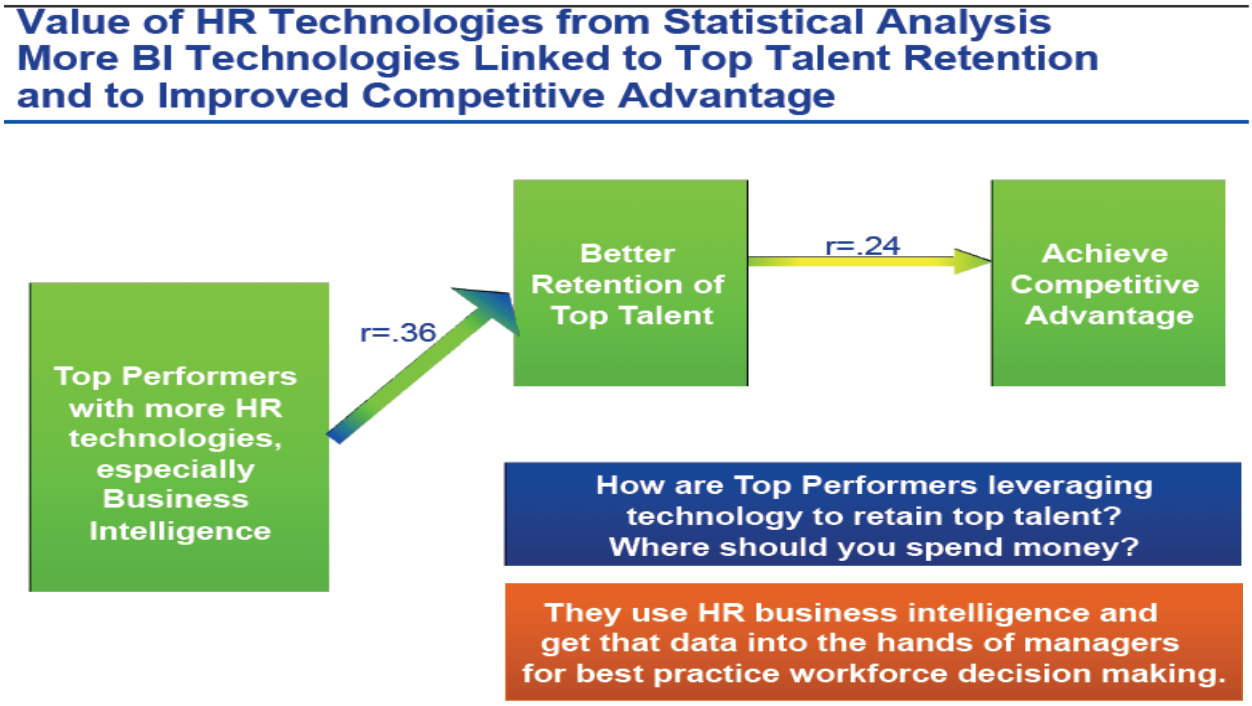
According to Bingham, & Galagan, (2007), Indian organizations use e-HRM as a tool for training and development to enhance knowledge capital and also stay at par with the global competition. As per Tyler, K. (2006) as Indian educational institutions do not sufficiently prepare students for corporate work, therefore the concept of training and e-learning is welcomed by most large and IT organizations in India. Bhattacharya, I. & Sharma, K. (2007), the National Knowledge Commission was established to make India a potential leader in the field of knowledge and learning. Indian organizations are also promoting e-learning to enhance the knowledge capital of their employees and therefore contribute to firm performance. According to Bhatnagar, J. & Sharma, A. (2005), e-learning initiatives seem more predominant in large Indian companies and multinationals that tries to provide the best practices for their employees. It has been also observed that impediments for e-HRM services in Indian corporate are resistance from HR leaders that they may have reduced control over HRM functions and also lose their primary jobs.

As per Taylor (2004), in most organizations, the key professionals involved in knowledge management activities are human resource managers, process & product developers, and information technologists. As per Lengnick-Hall and Moritz, (2003), "e-HRM also provides the HR function the opportunity to create new avenues for contributing to organizational effectiveness through such means as knowledge management and the creation of intellectual and

social capital". As per Hitt and Brynjolfsson (2000), OECD (2002), e - HR helps maximize a company's progress toward a knowledge economy and increased shareholder value. As per Biesalski (2003), to make implicit knowledge more transparent Daim ler Chrysler AG, Plant Worth uses skill management in his HR-solution to document the knowledge of each single employee.

2.4.5 Employer Brand Image- As per The committee Rijn Van (2001), HRM could play a significant role in strengthening the position of the public sector in the labor market. However, this required the renewal of the HR system and use of IT (Quoted in MinBZK 2006). As per CedarCrestone (2013) HR Systems Survey report, with HR technology especially business intelligence, organisations are able to retain more talent resulting in competitive advantage.

Figure-2.7: Business Intelligence and Competitive Advantage



Source- CedarCrestone (2013), "CedarCrestone 2013-2014 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics" – 16th Annual Edition, Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2013-HRSS-HRTech-100713.pdf

Bhatnagar (2007) sees e-HRM as providing a powerful brand identity in the external recruitment area which would not be possible with traditional approaches. E-HRM can help in a positive way by providing the ability to access, collect and disseminate information, giving individuals greater access to information about job opportunities, benefits and setting expectations about an employer. As per Bondarouk, T et.al (2012), **"**Promoting an organizations employment brand often occurs via different media sources, of which corporate web-sites and social networking sites recently gained in popularity". As per Alleyne, et al. (2007) HR intranet had an influence on satisfaction with the overall HR function. These internal perceptions of the organization and the HR function are also be shaped by the use of e-HRM through improved communications, better internal job application processes and access to policies. External applicants are also likely to form impressions of the organization as they pass through the recruitment process.

According to Bondarouk, T et.al (2012), " corporate websites moderate the relationship between employer branding and organizational attractiveness positively, while the outcomes of social networking sites show no significant result and outcome show that corporate websites are an important tool to provide organizational outsiders with employer branding information". According to West & Berman (2001), in a study of public sector managers, found that line managers believed that good e-HRM would allow the organization to compete with the private sector in attracting and retaining good employees. According to Bondarouk and Ruel (2010), examination of recent e-HRM literature classify strategic benefits prescribed for e-HRM in six groups and found branding of the organization one of them.

According to Bondarouk, T et.al (2012) organizations, on the other hand, more often use these types of communication on their own corporate websites by focusing on employee testimonials to increase their employer brand. As per Foster (2008), e-HRM also presents opportunities for developing employer branding and can be truly regarded as a strategic capability that would not be possible without the technology. Panaytaoplaou et al. (2007) found that 78.4% of his sample saw e-HRM as having an impact on company image.

2.4.6 Standardization of Practices- Lepak and Snell (1998) stated that IT can be of support when the HR function is to be integrated as different parts of the HR function are provided by different parties (managers, employees, HR professionals or even other organizations). As per Rob, s. (2008), if one would separate the HR function into two broad components, namely transactional and non-transactional activities, then it is easy to envisage the transactional components being e-enabled. Components being e-enabled can be implemented within subsidiaries as a standard tool in performing HR functions. Bjorkman and Lervik (2007) put forward three dimensions of ascending levels of transfer success – implementation, internalization and integration of diffused HR practices. According to Marler (2009), organizational goals for e-HRM investments include cost reduction through streamlining HRM operations.

According to Bondarouk, T et al. (2004), two conditions for the integration of the HR functions were standardization of the HR function and harmonization of dispersed HR functions. According to Mittal and Kumar (2006), business practices used to differ from place to place before application of ICT or web based technology in HR was implemented. The same has been standardized now. According to Shane (2009) e-HRM allows for decentralization and standardization of HR tasks across global boundaries. According to Tanya and van Balen (2010), business models of HR SSC's try to capture the benefits from both centralized and decentralized models that are often conflicting in nature. While serving multiple customers having various needs, standardization and a clear management structure are maintained as benefits of the central model.

According to expert group on future skill needs EGFSN (2008), "internal integration and centralized decision making is of paramount importance in the operation of global e-HRM system and any deviation from the standard system would arguably compromise the quality of the data collected and ultimately impair the informative value of any subsequent analyses of this data". According to Orlikowski, W. (2000), MNCs strive to attain internal consistency of policies and procedures to develop and sustain their corporate identity, while, on the other hand, MNCs are forced to tailor their policies and practices to suit the cultural, societal, and legislative environment of their host nation in order to achieve local efficiency. Morgan and Kristiansen

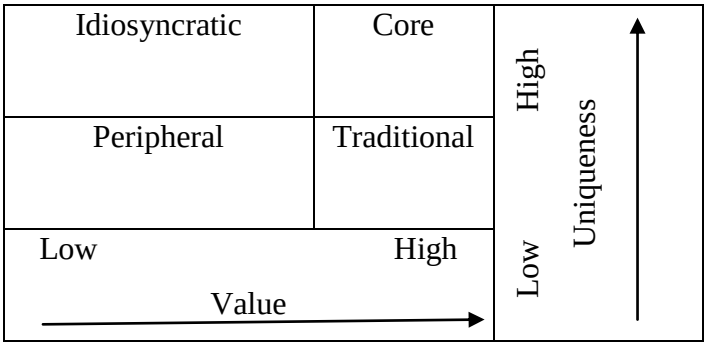
(2006), contend that the countervailing nature of these institutional contexts will ultimately lead to micro-political conflict between the head quarter (HQ) and the subsidiaries and the subsidiaries themselves. According to Bondarouk, T (2004), in most of the cases it has been seen standardization and harmonization of HR policies and practices as a condition for globalization. Globalization was a driver for centralizing HR policies responsibilities at company headquarters, while responsibilities for applying HR responsibilities were actually decentralized. E-HRM can be of support in integrating the dispersed HR function.

2.5 Financial Impact / Growth- Fletcher (2005) states, for HR to survive in this brave new world it needs to "possess a technology" may have to lead a line of business and should have profit and loss responsibility, understand what it means to be accountable for delivering business results. According to Mittal, & Kumar (2006), "the desired data is being replicated online between various information centers from time to time and this has resulted in minimizing the lead time and saving of resources both in terms of manpower, paper movement and cost on communication and operation"**.** According to Lengnick-Hall and Moritz (2003), for HR function, e-HRM has the potential to affect both efficiency and effectiveness. Efficiency can be affected by reducing cycle times for processing paperwork, increasing data accuracy, and reducing HR staff. Effectiveness can be affected by improving the capabilities of both managers and employees to make better and timelier decisions.

2.5.1 Outsourcing cost- As per Dessler (2004) mentions, technological applications play an increasingly important role in HR. Technology improves HR functioning in four main ways: self service, call centers, productivity improvement and outsourcing. As per Lepak and Snell (1998), idiosyncratic activities are most suitable for outsourcing as it is low in uniqueness, infrequent use, more standardized and its value also low. Core HR activities are expected to be performed by the HR professionals. Traditional and peripheral activities with a low uniqueness are devolved to managers and employees and the most suitable to be provided on digital platform. As per Foster (2009)**,** e-HRM allow organizations to perform more work internally without the addition of more staff, or by transferring work back from expensive external contractors and agencies. It has been identified that there might be savings arising from reduced reliance on third party

providers such as recruitment agencies, where e-HRM makes it possible to perform the work more cost effectively internally.

Figure-2.8: The value and Uniqueness of HR Activities



Source- compiled by scholar

2.5.2 HR Head Count Reduction – As per Foster, S. (2009)**,** cost reduction is a critical driver in most e-HRM projects. Opportunity for cost reduction arises because any resource devoted to the delivery of transactional services, such as the manual entry of data, maintaining employee records, processing requests, filing and dealing with enquiries is expensive and organizations will seek to reduce these types of cost at every opportunity. It is obvious that there is clear pressure within organizations to reduce HR operational cost.

As per Lengnick-Hall & Moritz (2003), fewer HR professionals are needed because e-HRM eliminates the "HR middleman". According to Prasad, L.M. (2003), large organizations generally install e-HR because it enables them to collect, store, process and manipulate large amount of data inputs, reduce costs of maintaining human resource data and provide accurate information about human resources anytime and anywhere. Walker (2001) stated, many systems have been implemented by cutting HR staff, outsourcing and imposing new technology. The committee Rijn Van (2001) concluded that reducing costs was not necessary because money, in their opinion, was not a real problem. The problem was the shortage of qualified employees in the labor market and therefore the public sector risked not being able to provide the services demanded. Therefore organizations should work more efficient to be able to more with less (more work with fewer employees). According to Wiscombe (2001), there is general consensus that HR technology lowers HR operating costs although estimates as to the potential for

operational savings vary, from a reduction in administrative staff of up to 40% and reductions in transaction costs of 50%. According to CedarCrestone (2009), US evidence suggests that a 20-25% reduction in HR costs is possible through e-HRM. The Aberdeen Group (2009) found that best in class organizations decreased the number of manual HR transactions by 11% and shortened HR service delivery cycle times by 5%. One important HR measure of administrative efficiency, apart from cost, is the number of HR people required to deliver the service relative to the number of employees supported – most large organizations strive for a ratio better than 1:100, that is, one HR person serving every 100 employees.

2.5.3 Cycle Time Reduction - As per HR Focus (2002), some statistics used to justify the investments made in e-HRM technologies are for example the average cost of an HR transaction, number of inquiries to the service centre, cycle times, headcount changes in the HR department and financial metrics such as return on investment (ROI) and the duration of the payback period. Lengnick-Hall & Moritz (2003) stated, the core goal of e-HRM is to assist the organization and human resource professionals to get non-strategic, transactional HR tasks done quicker, more cost-effectively and with less dependence on HR staff. Foster et al. (2004) describe that the application of the internet to the human resource function (e-HR) combines two elements; one is the use of electronic media while the other is the active participation of employees in the process. These two elements drive the technology that helps organizations lower administration costs improve employee communication and satisfaction, provide real-time access to information while at the same time reducing processing time. As per Mittal and Kumar (2006), the implementation of e-HRM has made duplicate efforts almost zero, as the software is maintained at one place, entry of information is done at the point of generation of information and automatic consolidation and integration of data is taking place. Lengnick-Hall & Moritz (2003) mentions, besides this, the automation and provision of HR activities enables streamlining of the HR processes which can lead to reduced cycle times of the HR processes. Service centre initiatives permit the organization to serve up to 11% more employees with an average 60% cycle time reduction across HR processes. The Aberdeen Group (2009) found that best in class organizations decreased the number of manual HR transactions by 11% and shortened HR service delivery cycle times by 5%.

2.5.4 Administrative and Operational Cost - As per Foster S. (2008), for many organizations, introducing e-HRM represents the first stage of HR transformation, which is about efficiency, effectiveness and removing excess cost as well as improving HR service delivery. As per Walker (2001), "if HR technology is to be considered successful, it must change the work performed by the human resources personnel by dramatically improving their level of service, allowing more time for work of higher value and reducing their costs". Aravind and Paramashivaiah (2006) emphasize that it is critical for every organization to resort to means that offer quality recruitment solutions at competitive costs. This is where the realm of e-recruitment starts. Gupta and Chhabra (2004) assert that the twin objectives of any human resource information systems can be understood as operational efficiency and effective managerial decision making. The survey conducted by Watson Wyatt (2002) to research the impact of e-HRM technologies, cost reduction was found to be a top metric in formal business cases for the adoption of the e-HRM technology. Ruel (2004) study has suggested that the implementations of e-HRM are driven by cost reduction goals of the HR system. According to Lengnick-Hall & Moritz (2003), a typical argument for the adoption of e-HRM technologies is: "Use e-HRM and your organization can reduce process and administration costs". As per Cober, et al. (2004), for recruitment, organizations are utilizing their own web sites even better because of the rising costs of web advertising and decreasing ease of finding qualified applicants.

The Aberdeen Group (2009) evidence suggests that the amount of time spent on operational (i.e. administrative) work is reducing as a result of past process improvement efforts - it has now fallen as a proportion of overall workload from 50% in 2003 to 36% in 2007, achieved through technology-enabled HR delivery models such as shared services and outsourcing.

2.5.5 Quality Improvement Saving - According to Jessup and Valacich (2004), the IT system has provided better corporate governance and employees have become aware that their movement, overtime, unauthorized absence, tours, expenses on medical, transport, telephone etc. is being monitored. As per Lengnick-Hall & Moritz (2003), e-HRM speeds up transaction processing, reduces information errors, and improves the tracking and control of HR actions, thus e-HRM improves service delivery. As per Panayotopoulou et al. (2007), employee and manager self service leads to higher accuracy and data quality. Adamson and Zampetti (2001)

stated, through the implementation and subsequent use of employee and manager self service applications, e-HRM has brought about considerable improvement in the updating of employee information, the posting of job specifications, changes in policy and procedure, training and staff changes. As per Oracle JD Edwards EnterpriseOne Manager Self Service (2007), e-HRM transforms managerial activities from manual, paper-based processes with multiple levels of approval to a web-enabled self-service system, it allows both managers and employees to stay focused on what matters most: improving performance. As per Mittal and Kumar (2006), e-HRM has minimized the data mistakes as the data entry is being done by the person who is directly responsible for source data generation.

2.5.6 Output of HR- The survey of Watsonwyatt (2002) mentions productivity improvement as one of the four top metrics used to justify the implementation of e-HRM technologies. As per Hawking and Stein (2004) "this technology holds out the promise of challenging the past role of HR as one of payroll processing and manual administrative process to one where efficiencies cost can be gained, enabling more time and energy to be devoted to strategic business issues". As per Oracle Jd Edwards EnterpriseOne Manager self service (2007), delegation of authority at the appropriate level and time, the time saved can be translated directly into cost savings for the organization. By empowering managers to perform business transactions themselves, human resources staff time can be saved and, just as importantly, your managers can be more productive because they have the real-time information they need at their finger tips, which allows them to manage their teams more effectively. Researchers like Foster et al. (2004), Bondarouk, T(2004), Strohmeier (2007), reveals the idea that e-HRM increases productivity through decreased requirements for HR staff, increased speed of process due to automation as well as cost reduction. Towers-Perrin (2002) notes how the use of e-HRM is creating opportunities for HR shared services delivery centers, which in turn lead to new economies of scale, including better and greater efficiencies for HR operations. According to Aberdeen Group (2008) indeed, for most organizations investing in e-HRM, it is unlikely that there will be financial funding for an e-HRM project without quantified operational benefits; economic pressures and the need for tight cost control drive 76% of investments in HR systems, although fewer than one third of organizations describe the internal HR function as 'very cost effective'.

2.5.7 Stationery Material Cost- As per Mittal & Kumar (2006), many of the information sent earlier to the employees through paper are made available online which has reduced lot of paper work including pre-printed stationery etc. All the application forms have been provided online wherein employee can used them for submitting their applications. With the implementation of workflow applications papers have been replaced with electronic documents. As mentioned earlier, it is very difficult to find out the direct cost and benefit from the software, so is the case with return on investment (ROI). According to Adamson and Zampetti (2001), "HR self-service, entails the use of interactive technology by employees and managers to obtain information, conduct transactions and essentially short-cut processes that previously required multiple steps, paperwork, and the involvement of HR staffers". Foster (2009) states, other cost savings might arise as a result of displacing existing technologies with resultant savings in licensing and support costs, or switching to electronic rather than conventional media. For example, the introduction of technology means that more documents (offer letters, interview invitations etc) can be sent on-line, with a reduced need for stationery, postage, facilities and other day-to-day costs. Recruitment processes, in particular are often highly reliant on the mail system, whereas e-recruitment eliminates this need made large savings simply by scrapping its physical applicant packs.

FIGURE- 2.9: Cost Efficiency and Competitive Advantage

Source- CedarCrestone (2013), "CedarCrestone 2013-2014 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics" – 16th Annual Edition, Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2013-HRSS-HRTech-100713.pdf

2.6 E-HRM as a Facilitator- Keebler & Rhodes (2002) stated, to provide better service to users of the HRfunction it is significant to focus on the feeling of the users consuming service of the HR department. Gupta (2008) stated e-HRM play various roles of system manager, HR manager, time manager, payroll manager, and report manager. According to Prasad (2003), the thought of automated HRIS is derived as a structured way of providing information about hunan resources, their functioning, external factors relevant to managing employees. Sacht (2003) finds , web technologies have already provided employees direct access to each other, to HR, and to business information with such a simplicity and intelligence that every employee can contribute more directly to company results . Now, digital databases, voice and video, interactive tools and multimedia content is available to extend the techniques for capturing and spreading messages. As asserted by Ketlley and Reilly (2003 nature of HR departments has changed because of the development of e-HRM and employees tend to ask for advice rather than administrative assistance.

As per Towers Perrin (2006), the survey revealed that the greatest growth in HR technology is in the area of talent management. This is attributed to the fact that "talent management is front and centre on the organizational leadership agenda today". According to Shane (2009), e-HRM is seen as a facilitative tool that can be used to manage prospective and current talent to ensure that the appropriate skills are attracted into the business at the right time and that these skills are retained.

As per Keebler & Rhodes (2002), with self service applications companies are trying to meet the HRM needs of managers and employees and at the same time support the business objectives of the company. As per Ruta (2005), many of the reporting-type activities, earlier performed by human resource executive, can now be performed online by managers and staff themselves.

The first Cedar Crestone Asia Pacific-APAC HR Systems Survey (2008-2009) discovered that HR service centre approach enables organizations to serve more employees with their HR staff. As per Prabakaran (2012), recently, a second wave of ESS shifted the focus from these purely efficiency based applications towards empowering employees and managers to take more responsibility for their jobs and development. Career planning, skills profiles, learning, objective settings, appraisals and more and more analytics are increasingly popular with ESS applications. As per Corporate portal Mystro HR (2013), HR and payroll, empowering employees in their day-to-day functioning requires giving them anytime; anywhere access to basic employee facing processes as well access to information about the people in their teams. In absence of these, employees are left wondering and waste time chasing people and paper.

As per Sanayei and Mirzaei (2008), on their own desktops, line managers nowadays perform appraisals, evaluate employee costs, generate HR reports (turnover, absenteeism), process training requests and oversee competence management. Employees have access to everything they need to change and manage their personal files, plan their development, process financial documents and apply for new jobs. HRM professionals are facing a digital future. As per Yao, et.al (2010), e-HRM facilitates openness and transparency and most of the information is just only far away from one mouse click, it supports individual as well as group members in making decisions, especially in case of group decision making. E-HRM tools is used in information dissemination, opinion sharing and it facilitates the complete decision mechanism.

In the view of Armstrong (2003), e-HR provides the information required to manage HR processes. These may be core employee database and payroll systems but can be extended to include such systems as recruitment, e-learning, performance management and reward. The system may be web-based, enabling access to remote or online and at any time. The information provided by the e-HR process can be communicated across organizations. Sadagopalan (2004) observes that information systems to support the personnel function have once again taken the record keeping view rather than the decision support view particularly in the Indian context, it is limited to creating large databases often of questionable value and accuracy. Slowly this trend is changing at least in more progressive companies.

According to Mittal and Kumar (2006), with ICT, the consolidated information is available to the management for effective decision making instantaneously and they need not to wait for collection, compilation and consolidation of information, which used to take lot of time earlier As per Yao, et al. (2010), if e-HRM implemented and used correctly, can improve the quality of group decision making significantly by minimizing the negative effects of group decision-making and by maximizing the benefits of group collaboration and decision-making can act as an information support system.

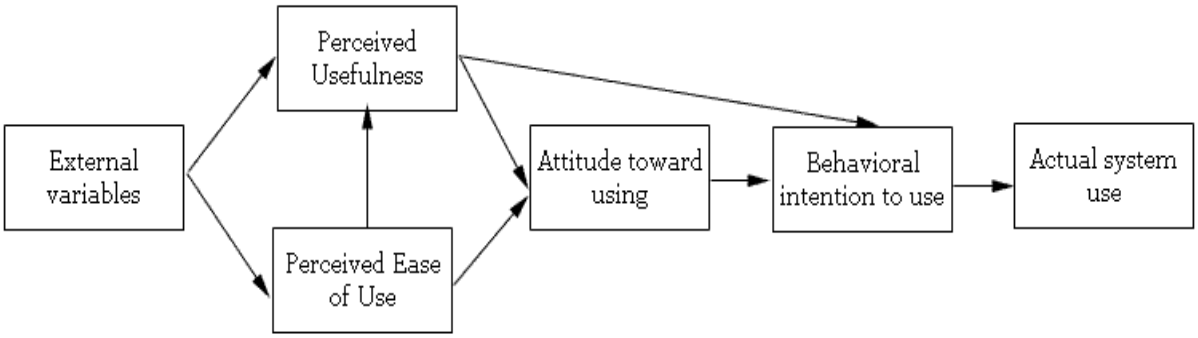
As per Awwal (2009), "ICT segregates data through applications and adequacy of hardware to meet user's required performance criteria today across wide area network and is providing new dimensions to decision making process". According to Mittal and Kumar (2006), e-HRM system has helped in early consolidation of accounts particularly in case of employee's expenses, salary, income tax returns and provident fund etc.

According to Keebler & Rhodes (2002) "e-HRM technology should not only be designed to make the HR processes as efficient and cheap as possible, but the e-HRM technology should be made useable too, to increase the service experience of the managers and employees and in this way a client service improvement of the HR system can be achieved". According to Watson Wyatt's (2000) survey, web technology is the predominant method for delivering HR-related services to employees and managers, and offers significant opportunities to improve communication, knowledge sharing and HR delivery systems. E-HRM also involves many more stakeholders besides human resource in the HR department and the business and also includes job applicants and employees from all levels.

As per Sacht (2003), "e-HRM tools are not yet available everywhere in the developing world, they are spreading rapidly and present a unique opportunity for developing countries to benefit most from the technological revolution now unfolding: low-cost telecommunications systems can help countries to leapfrog ahead through distance education, distance health services, and much better access to markets and private sector partners abroad". The Aberdeen Group (2009) found that best in class organizations improved employee satisfaction by an average of 9% through improved HR services.

2.6.1 E-HRM and Technology Acceptance Model (TAM) -The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. Perceived usefulness - defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance". Perceived ease-of-use - Davis defined this as "the degree to which a person believes that using a particular system would be free from effort".

FIGURE- 2.10: Technology Acceptance Model (TAM)



Source- Davis, F. D., (1989), "Perceived Usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, pp. 318-340

According to Ruel (2001), it is expected that when end-user understand the e-HRM goals and the intended effects of the e-HRM technology, it will positively affect the use of the e-HRM technology which is expected to lead to the intended use of the technology. Venkatesh, et al. (2003), in their study mentions that usefulness is more strongly linked to behavior intentions of user and actual system use than ease of use.

As per Bondarouk, T. (2004) the goals that drive parties, stakeholders, and individuals in organizations will set a framework for the real e-HRM applications and approaches to be implemented. Ruta (2005), in his study demonstrated that usage of HRIS increased when IT user acceptance principle were integrated with change management principles.

Voermans and Veldhovern (2007) attitudes towards adoption, using TAM with a strategic preference more likely to have a positive attitude to e-HRM, employee champion role preferred more negative, do not find positive correlation between administration role and e-HRM. The preliminary investigation by Yusuf et al. (2011) made on perceived usefulness, perceived ease of use and attitude towards using e-HRM illustrates, e-HRM provides the human resource function with the opportunity to create new avenues for contributing to organizational success**.**

Most of research on e-HRM has been done in developed economies like United States and European Union. Netherland is pioneer and far ahead in e-HRM research. Very little empirical study has been from emerging countries like India. India is politically, economically socially and technically very different from the developed economies. As there are much distinction in business environment and the management practices between developed economies and India, there are always possibilities of different research results. There is no empirical evidence of level of prevalence of e-HRM and different e-HRM instruments and tools being used in Indian context. There is no empirical evidence in literature which examines the impact of e-HRM in terms of strategic capability. Available research literature does not cover the impact of e-HRM in terms of financial contribution, internal stake holder satisfaction.

CHAPTER-3

RECENT TRENDS OF E-HRM IN INDIAN ORGANIZATIONS

Application of information and communication technology (ICT) in HR function in Indian organizations can be traced back to introduction of computers way back in nineties. Human resource department is considered one of the early adopter of information and communication technology but it was fragmented, it took time in integrating and assimilating HR process, mechanism and system. In initial days it was confined to salary, personal data administration and other traditional HR functions through HR functional application software. With arrival of net and World Wide Web (WWW) and mail services, sharing of information between individuals and with masses became easy and cost effective. Development of intranet, self service and ERP business solutions are the hall mark of application of information and communication technology to HRM function. Now HRM services to different stakeholders are provided in touch screen smart phone base.

Web 2.0 technology or social networking is the current developments in e-HRM globally. It is quite dissimilar from the past Web 1.0 technology which was altogether dealt with unidirectional flow of the data, text, audio, video, content, any message or information. Network technologies offer stage for open contribution, capture brain power of individuals or groups offer access to network through various instruments. Web 2.0 is a mechanism that facilitates groupism and sense of community and connects with common people. It entices public to come at a common platform share feelings and have dialogues. Web 2.0 is based on increased participation and involvement among service consumers. This is quite visible and can be noticed in online games, blogs, social networking, Wikipedia, social bookmarking, and different multimedia channels. This trend is now seen in Indian organizations especially for knowledge sharing, knowledge management, recruitment and branding. Experience shows use of Web 2.0 technology has reduced HR related queries and complaint, thus providing an instrument in the hand of HR professional to deliver its services.

3.1 Emerging Trends of e-HRM-

E-HRM is the use of technical know-how to augment the value of HR delivery in a business is not new to Indian organisations. But what started with automation of basic HR transactions is now a key constituent in the HR department's much publicized transformation into a strategic associate. As per HRD Survey (Business Today-Gallup), the major concerns of the managers regarding their companies HRD practices included-lack of proper recruitment, absence of sound performance appraisal systems, low salary, lack of team spirit, lack of career management, absence of organizational commitment and low job satisfaction level. Most of the HR managers along with line managers conceive that there was a need for human resource management systems which incorporates all the fragmented human resource functional applications in integrated form.

With integration of information and communication technology with HR function different vendors started selling HR functional application software and at later stage integrated HR software suite applications. Now most organizations have integrated their HR function with business solutions in the form of ERP and different companies are providing ERP solutions in the name of SAP, Baan, People soft etc

The early birds in implementing and it seems that in benefiting from the e-HRM initiatives have been organization in the information technology, insurance, banking and outsourcing where numbers of employees were very high. But now even traditional organizations like FMCG, automobile, energy, education are following the same trail. Several companies like Hero Honda, Ranbaxy. Dabur, NTPC, LIC, Moser Baer, Maruti Suzuki, SBI, Tata Motors, have implemented IT to enhance their HR functionalities.

In Indian business most repeatedly used names are "SAP", "BAAN" and "People Soft". These packages are tailor made and can tackle exclusive needs of companies. A substantial number of companies in India are currently tuned in to SAP alone. Some prominent names among these are ONGC, Asian Paints, L&T, IOC, SBI, HPCL, Aditya Birla Group, Ruia Group, Tata Sons, Jet Airways, GM, Eicher, Bajaj, Wipro, Infosys, Siemens, NTPC, Mahindra, BEL, Reliance, and many more.

Siemens has implemented SAP R/3 –ERP package for ONGC for human resource and facility management function, one of the single largest human resource packages in the India. SAP India Private Limited provides Mahindra Group ERP solution for consolidation of the group's systems. Common processes across the Mahindra Group of companies, such as human resources, employee services, administration, finance, procurement and analytics, were standardized on the SAP technology platform. Wipro Infotech Limited implemented "MySAP" Business Suite that included human resources, business intelligence and other modules in Bharat Electronics Limited.

Oracle "HRMS" has lots of clients in India and with the help of Oracle "HRMS", organizations manage varied aspects of their workforce such as payroll and expense management, recruitments, hiring, benefit administration, and training and performance management. Amongst the popular HR Packages "EnTrust HR & Payroll" solution is offered by Comtel Technologies and "Payroll Champion" from Process Weaver. Greytip Software provides HR and Payroll Software Solutions, called "Folklore HRIS" for small, medium and large organizations.

"Ramco HCM with Analytics", an end-to end all-inclusive way out for Human Capital Management drives the renovation and computerization of HR service delivery and enables best-practices of workforce management. It also helps organizations to take critical business decisions with confidence, synchronize financial and operational human capital strategies and develop a targeted talent management plan. This deal with the functions for time and attendance, absence management, employee data management, labor budgeting, forecasting, scheduling and task management, pay roll management, training, succession planning, performance appraisal and talent acquisition.

Advanced Payroll Processing & Live Employee Career management, Appraisal, Recruitment and Training (APPLECART), offered by Cosmosoft Technologies, offers a complete solution for managing the work force with powerful querying and reporting features. The various subsystems under the APPLECART are traditional personnel management, payroll processing, absence and leave management, tax computation, personal loan management.

Adrenalin offers a complete online HR & Payroll solution. It offers customized packages to suit the business needs and budgets, "Adrenalin Basic", "Adrenalin Suite", "Adrenalin Smart-build" and "Adrenalin SaaS". Saviour has legal activities of all types of payroll. The "EmpXtrack Payroll" is based on SaaS platform and caters to small business to large enterprises. Altec Ipc Information Processing Ltd offers a software package – "Agile e-hr". "Agile e-hr" payroll is multi-user software and has an advantage that it can work in multi currency.

Optimizer Consultancy Private Limited is in the business of payroll processing and HR related activities. "HumaNET" is one of the top growing HR software in the business. With back-to-back HR functions it inculcates from hiring to retiring, all the sections. It also has the services available on SaaS. "HumaNET" payroll is a multi company and multi location product. Paradyne Infotech developed integrated software suite "HrWorQ" which is a suite of human resource information management systems. Patni Computers developed Human Resource Management Systems (HRMS) as integrated system enables interface between human resource management and information technology. Company has also developed a web-based application to follow issues raised by users.

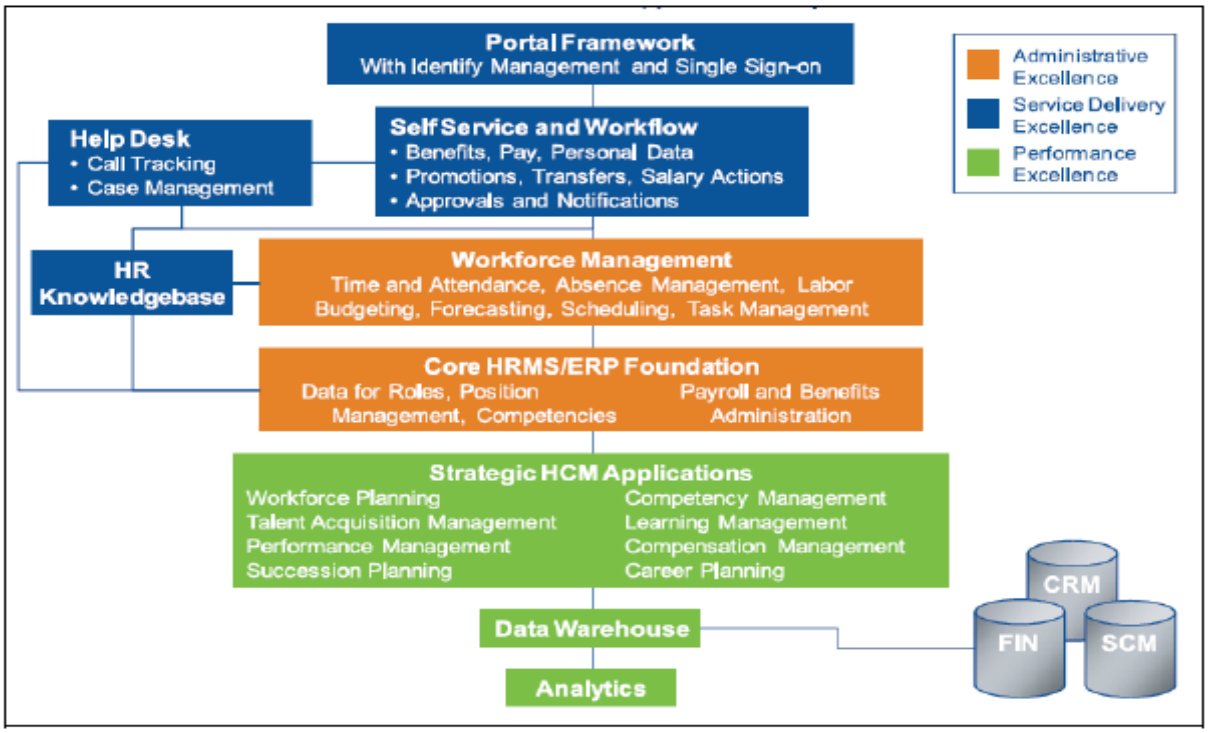
Kenexa Technologies launched, "e-human capital management" is a complete human resources (HR) recruiting and maintenance solution, which can be incorporated impeccably with software structural design and enterprise resource planning systems and solution contains modules such as applicant tracking, telephonic round screening, and knowledge, skill and attitude evaluation. Nimbus Systems (P) Limited developed "Crown24K", a complete enterprise resource planning (ERP) solution, supported by the Microsoft Dynamics AX4.0, ERP software for gem and jewellery business**.**

It has been seen during the survey, the application of e-HRM tools is mostly confined to ERP enabled HR intranet and self services (ESS/MSS) applications, HR portal application has presence in some cases but IVR and HR extranet has very limited applications, so it becomes imperative as a part of research study to elaborate ERP based e-HRM model. As a part of case study in selected eight organizations there are cases in which organizations are using digital platform in a non conventional manner in providing some special HR related services. The study

in its endeavor provides some standard model of e-HRM and unique/ customized practices adopted by select Indian organizations.

3.2. **Model of HCM Excellence** - The Cedar Crestone survey (2008), mentions the present position of technology adopted by human resource function across various parts of the world has Enterprise Resource Planning (ERP) based Human Resource Management System (HRMS). The basic framework of most the HRMS model adopted by different organizations globally has been depicted in the figure 3.1.

Figure-3.1: Human Resource Management System (ERP-Support)



Source- CedarCrestone (2008), "CedarCrestone 2008-2009 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics - 1st Survey focused on Asia and Australia (APAC)", Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2008-2009_APAC_WP.pdf

The figure -3.1 elaborates the blueprint of ERP-based HRMS and its brief description as follows.

A) Administrative Excellence – This module has two parts.

- Core Human Resource Management System **(C**HRMS) Foundation- This module deals with files linked to wages and earnings and individual data administration (post, position, academic and professional qualification, competencies, salary and benefits) and is accumulated and made readily accessible to various clients.

- Personnel/Workforce Management- This module handles operations of time office like entry and exit time, absence, leave and attendance, labor budgeting, forecasting, scheduling and task management. This is very important in large organizations where shifts are in operation. In these components the administrative superiority is attained through computerization in functioning of HRM.

B) Service Delivery Excellence- This module has two parts.

- Portal Framework- Establishments make human resource services accessible through portal with solitary sign in facility with call centre, interactive voice response and self service tools. At portal framework services are either operational/transaction or relational/traditional. It offers the routing link to Employee self service and Manager Self Service. It assists in role clarity and openness which is highly demanded.

- Self Service and Workflow - Employee self service and Manager Self Service is the best feature of this unit and one of the main and highly sought after instrument to manage life events. Reward and benefits, salary and individual data administration, transfers and posting, and authorizations and announcements are the few areas which can be managed by self service applications. This inculcates identity administration and solitary sign-on. It is the initial steps to rationalize workflow by streamlining, 24*7 facility, digital office, empowerment, which was highly desired.

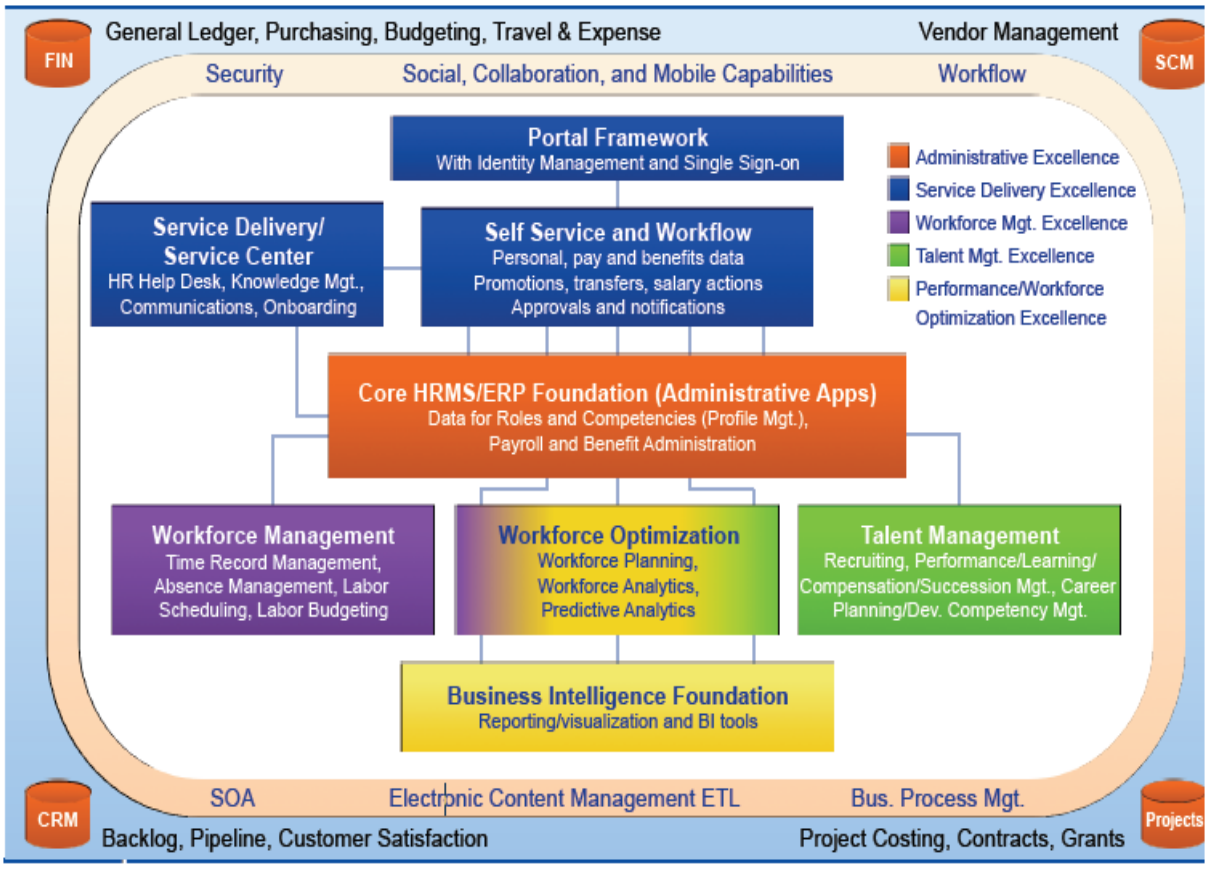
C) Performance Excellence

This part of Enterprise Resource Planning assists establishments for higher order transformational outlook with human resource planning, attracting, hiring, compensation and performance management, succession planning, proficiency and knowledge management,

training and learning management, career administration and all other functions. Performance Excellence module brings data from various sources and integrates enables measurement and reporting of workforce performance.

As per CedarCrestone (2013) HR Systems Survey testimony with time there had been significant alterations that have in use in Human Capital Management model (HCM). Acceptance of web 2.0 technology and Smartphone instruments persuades more client acceptance of human resource technical knowhow. Higher the adoption shows in higher value attained from cost incurred mean more value for the money. In total adoption of web 2.0 technology enabled system enhances 50% from 6% in 2012 to 9% in 2013. Recruitment is the most sought after function continue to be highly acceptable. Mobile phone-facilitated route acceptance saw up thrust 67% from 6% in 2012 to 10% in 2013. Recruiting processes for recruiting staff continue as leading mobile-enabled process. The two key parts which receiving preference in Human Capital Management model is retaining or talent management and business intelligence.

Figure-3.2: Outline of CedarCrestone Human Capital Management (HCM) application



Source- CedarCrestone (2013), "CedarCrestone 2013-2014 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics" – 16th Annual Edition, Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2013-HRSS-HRTech-100713.pdf

3.3 E-HRM in select Indian organizations- The research in its endeavor has selected Indian organization with mixed profile as sample organization and has compiled the different HR activity performed by these organizations in electronic platform. The corporate portal of these organizations had been the major source of the information.

3.3.1Coal India Limited (**CIL**) – CIL is a coal mining company under government of India. It has it's headquarter at Kolkata, West Bengal. Coal India has eight subsidiaries, which is situated in India and abroad and fulfills 81% of coal requirement of country. Coal India Limited is one of the largest coal producer companies in the world. CIL was nationalized by government of India in 1970 to cater energy requirement and to have harmonious industrial relation with aim of social welfare. Few years back Coal India Ltd was listed with stock exchange; still union government holds 90% of its equity. The operation of the company is controlled by Ministry of Coal. In year 2011 CIL was conferred with Maharatna status by central Government. CIL and its subsidiaries have 357,926 (tentative) employees as on 31 March 2014, out of which 304,792 were operatives, 33,542 were supervisors and 19,592 were executives.

Figure-3.3: Coal India Corporate Portal

Source-https://www.coalindia.in/

Coal India in their corporate portal has provided a link "Our people", when clicked four options appear.

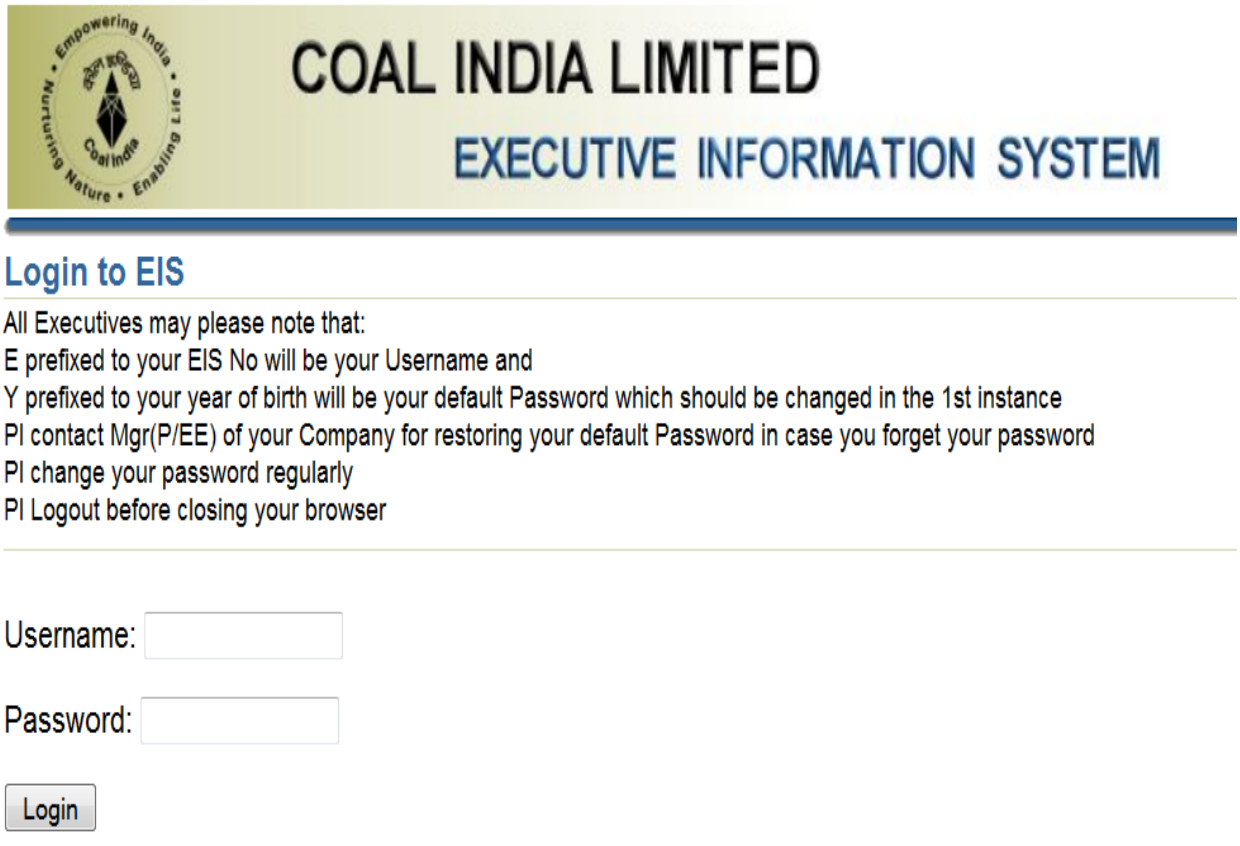
1. CIL HR- Provides information related to Human Resource Development in CIL with headings Technical Training, Management Training, Transformation Training, and General Development Training.

2. Employee welfare – Information related to different welfare schemes of the organization.

3. Careers- Offers connection to diverse bulletins/ messages associated to posting, promotion, grade history, seniority list, departmental selection

4. Executive Information System (EIS) - All the executives of Coal India Limited and its group companies can have a sight of their individual data existing in Executive Information System, like their Personnel Master File, Position/ Grade account, Posting History, Qualification etc. Here an executive can view merely his private information. This module has architecture to function steadily on the public domain utilizing a web link. The client verification mechanism is totally based on oracle support. The Executive Information System (EIS) is for all below board level executives of CIL and addressing transaction related issues to address the complexities arising out of changes in policies.

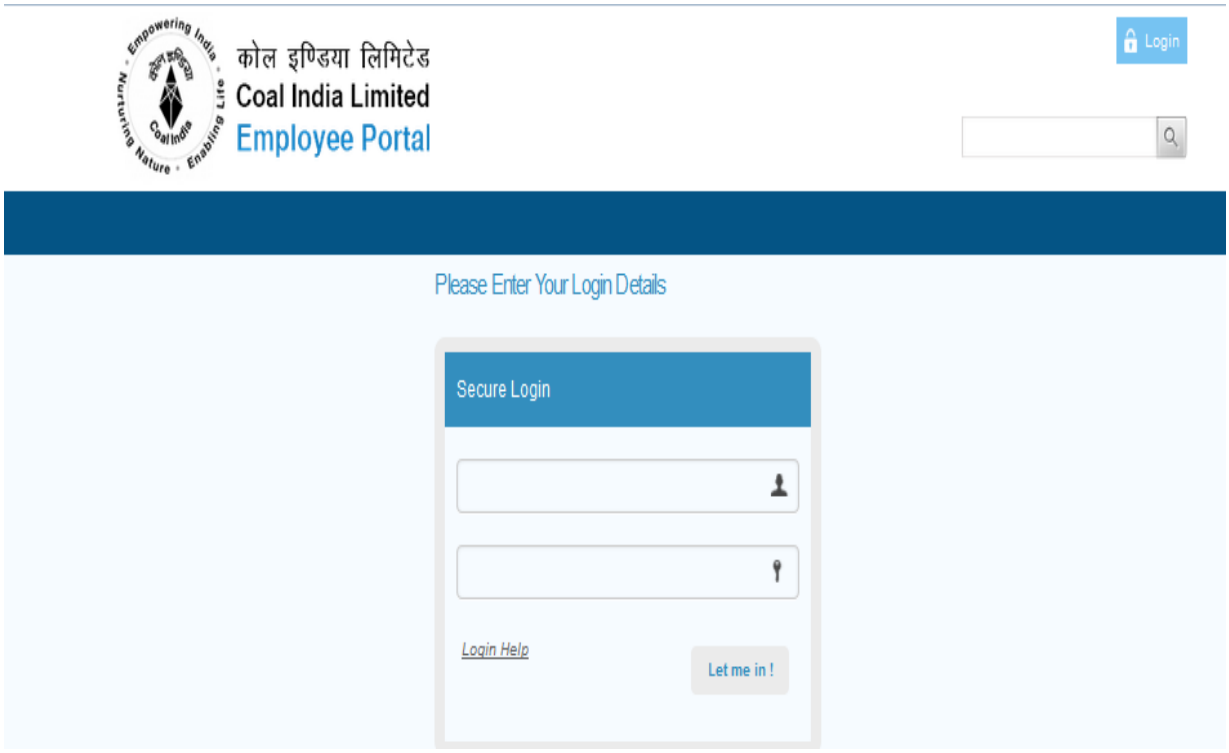
Figue-3.4: Coal India- Executive Information System - Online



Source - http://210.212.20.44/eis/faces/login.jsp

Coal India in their corporate portal has provided a link “Career with CIL”, which is for external job seekers and provides details of vacancy and acts like recruitment portal where on line applications can be filled and different forms can be downloaded. Coal India in their corporate portal has provided a link to employee log in, when clicked the employee portal opens where employee are supposed to enter their log in details

Figure-3.5: Coal India Employee Portal



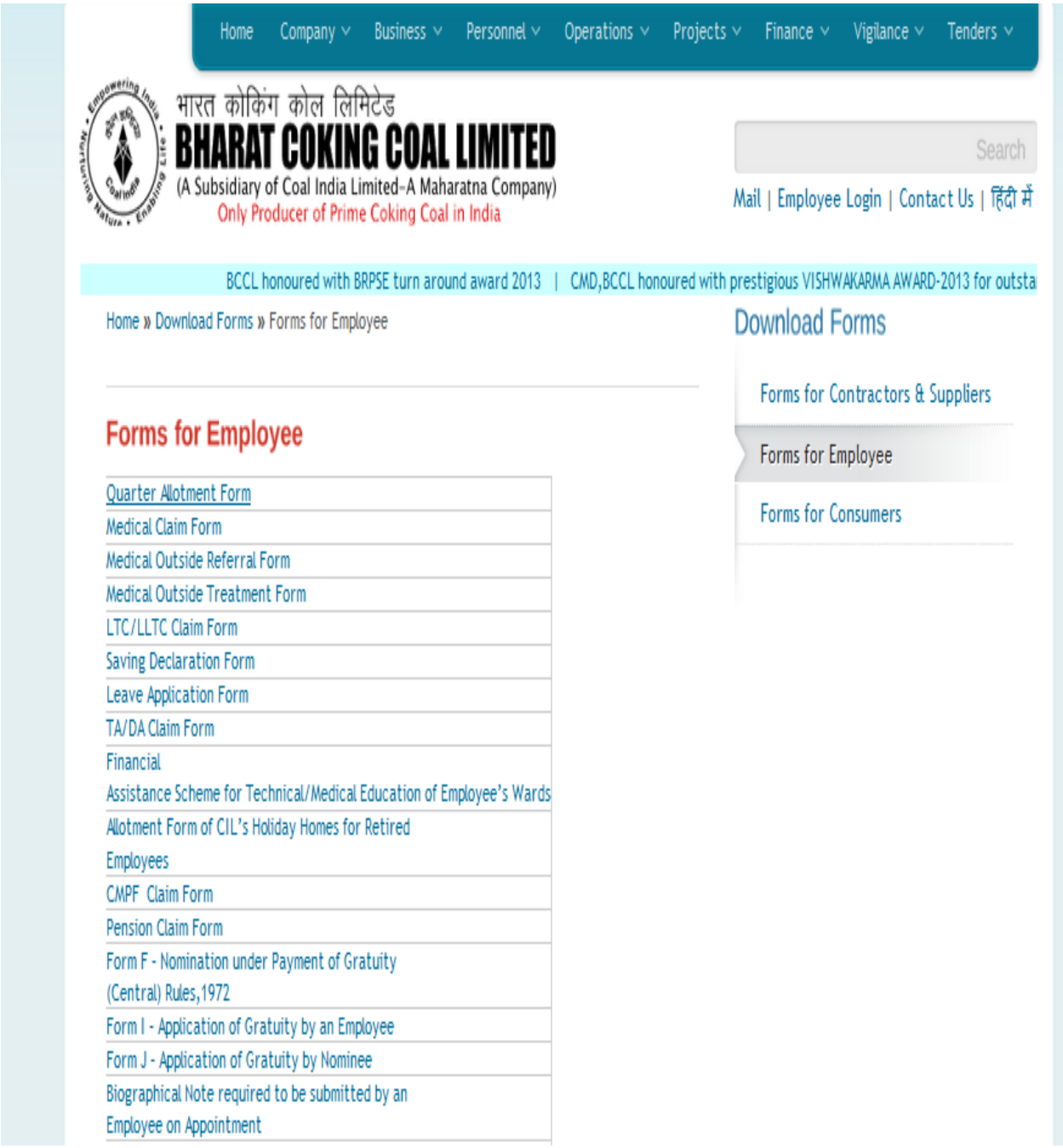
Source-https://www.coalindia.in/intranet/signin/tabid/935/language/en-US/Default.aspx?returnurl=%2fintranet%2fen-us%2fhome.aspx

BCCL (subsidiary of CIL) in their corporate portal has provided a link ‘personnel’ which provides link to other HR activities. This basically acts like notice board and provides a link to Executive Information System and routed to centralized CIL portal. Portal provides link to download various forms useful to employee and executives for different HR related activity.

Figure-3.6: BCCL –Corporate Portal

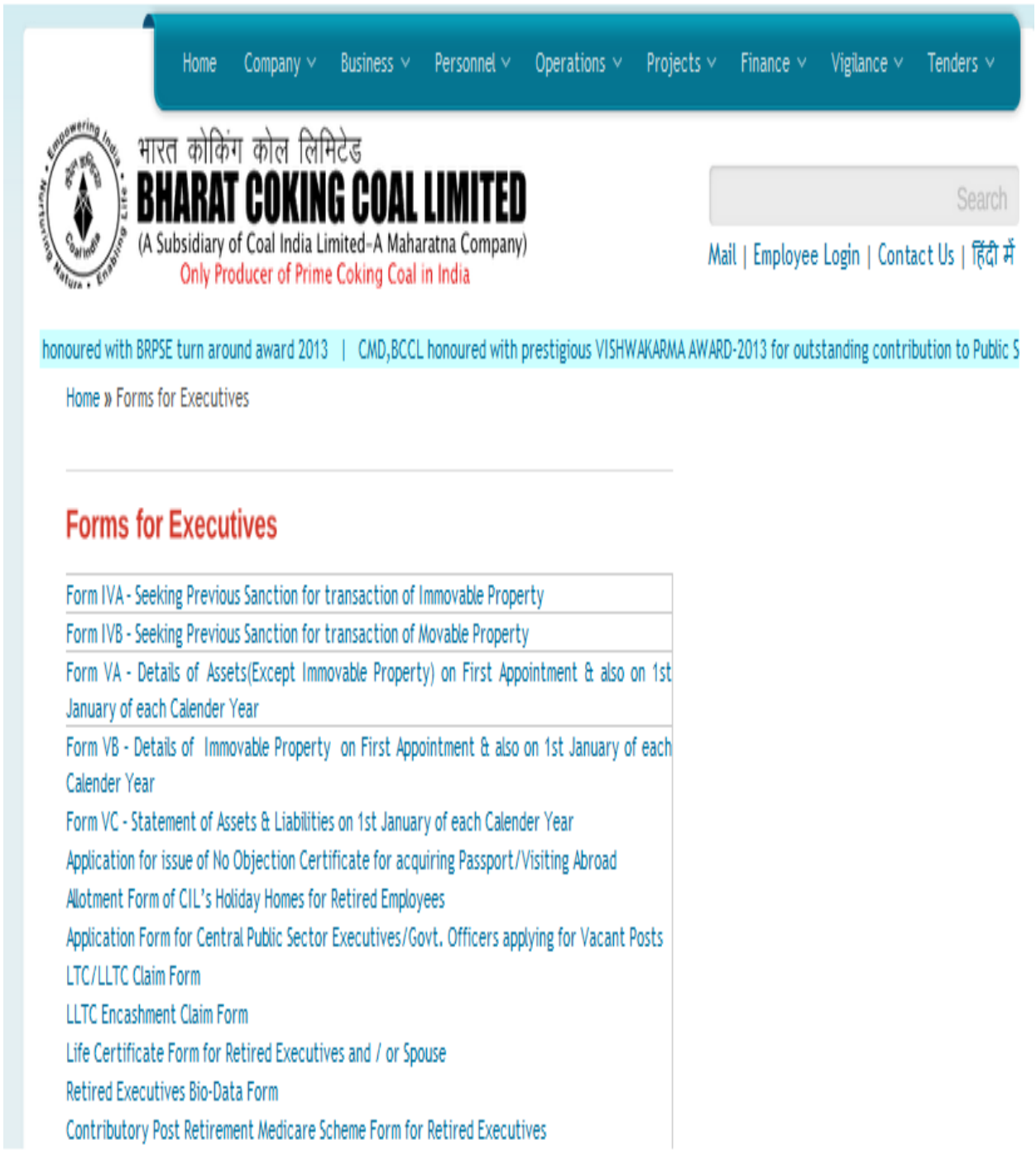
Source- http://www.bccl.gov.in/#

Figure-3.7: BCCL –Download Forms (Employee)



Source- **http://www.bccl.gov.in/?page_id=306**

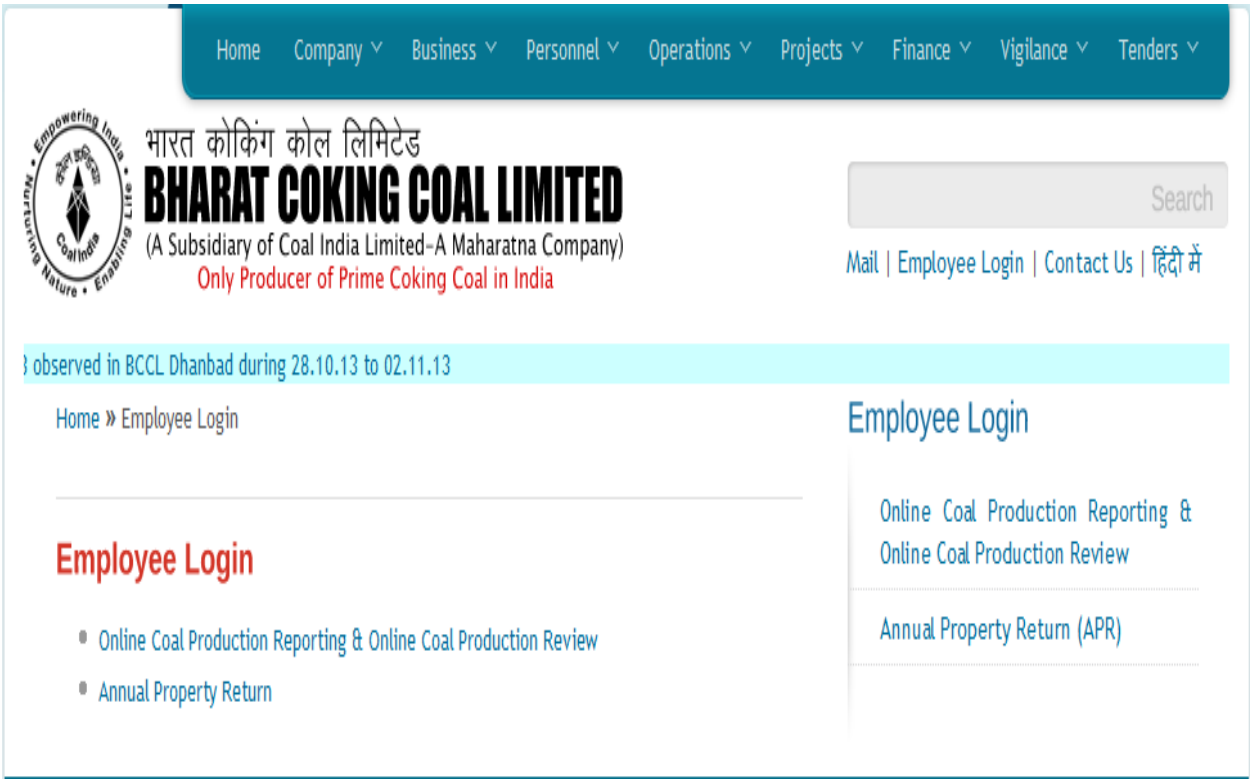
Figure-3.8: BCCL –Download Forms (Executive)



Source- **http://www.bccl.gov.in/?page_id=771**

The organization has an Employee log in but it is confined to online coal production reporting and online coal production review. The organization has provided a link for annual property return.

Figure 3.9: BCCL –Employee log in (Production and Reporting)



Source-http://www.bccl.gov.in/?page_id=1534

Central Mine Planning and Design Institute Limited (CMPDI) one of the subsidiaries of CIL has built an extremely protected intranet that uses internet technical knowhow to disseminate and compile information, and for computing services within the organization. CMPDI intranet is very user-friendly and provides a platform for very effective and efficient internal communiqué, liaisoning and collaboration. A number of software has been developed internally and, caters the basic necessities of employees. The network of CMPDI in common has special provisions for verification and authorization. In fact CMPDI endorses the fact automation and modernization is the only solution to enhance efficiency and effectiveness. LAN is used for intra office

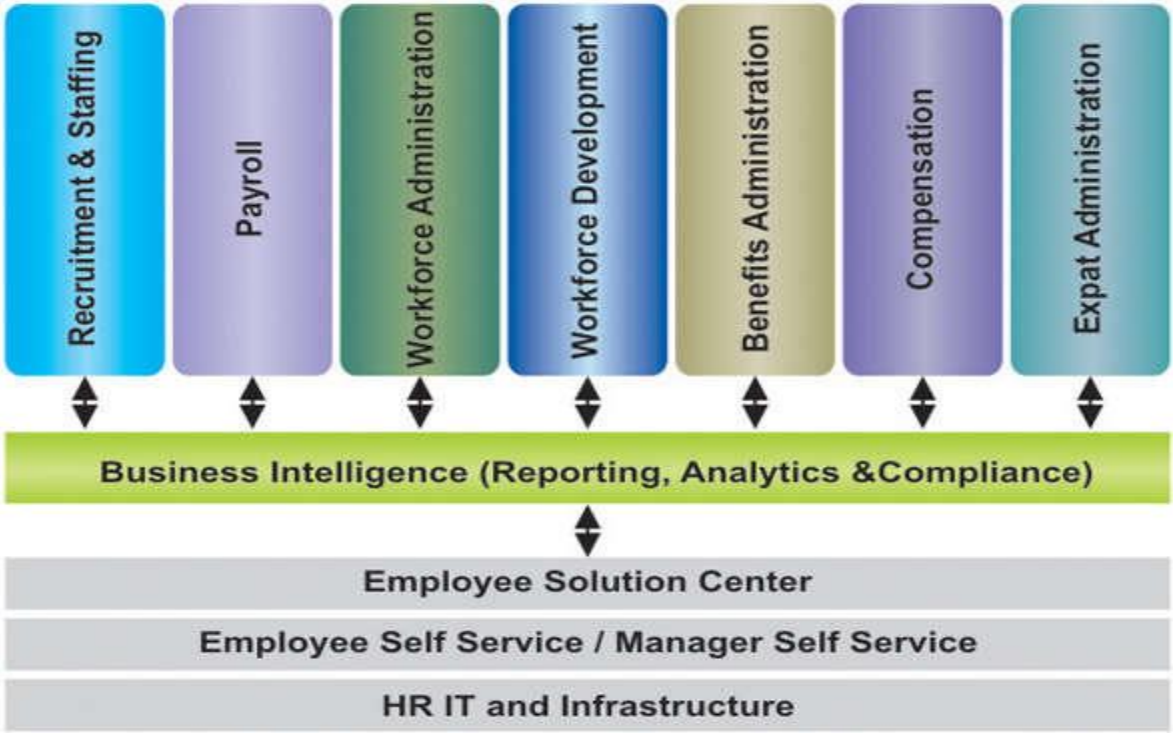
communication and thought as the heart of software packages being used at Central Mine Planning and Design Institute Limited (CMPDI).

Other subsidiaries of CIL have more or less similar applicability of ICT for providing HR related services. It is more of operational, publishing of information nature. ESS, automation, integration of HR, mutation of entries, concept of paperless office and many more is lacking.

3.3.2HCL – HCL is Technology Company headquartered at Noida, Uttar Pradesh. HCL Technologies Limited is flagship of HCL, is a global IT services provider. It has networked offices at several locations in India and abroad. It's offices are spread over 26 countries and provides services to different sectors and segments of economy which includes manufacturing, telecom, aviation, military equipment and services, power and energy, mining, metallurgy, software vendors, services, servers & storage, automobile, transportation and logistics, banking, insurance, financial services, electronic and print media, entertainment, retail, warehousing, electronics, education, government, biotechnology & healthcare, medical equipments, semiconductors, travel and tourism. In last few years HCL has shown tremendous potential as a software and technology company and has outperformed its peers both in revenue generation as well as on bourses and is considered one of the fastest growing technology companies not only in India but globally. HCL is perfect blend of expertise, technical knowhow, and advanced management practices and philosophy that unleashed the thinking of empowered employees. The innovative practices like "Employees first customer second", is a very different approach that acts like a catalyst and driving force of 88,000 plus employees, and solves customers problem.

Over a period of time HCL Technologies Limited felt necessities of integrated business solutions for seamless and uninterrupted operations. SAP R/3 enterprise resource planning (ERP) was set up for efficient and effective management of information across different locations and centers globally. SAP R/3 has standardized and incorporated all the processes of the company across different functions. HR function of HCL provides in a class HR domain capability, unique practice, mechanism & processes, best-in-class IT infrastructure on HR ERP platform. Integrated human software suite application facilitates different stakeholder in accessing streamlined, improved, transparent and flexible services in 24*7 mode, hence improved satisfaction level.

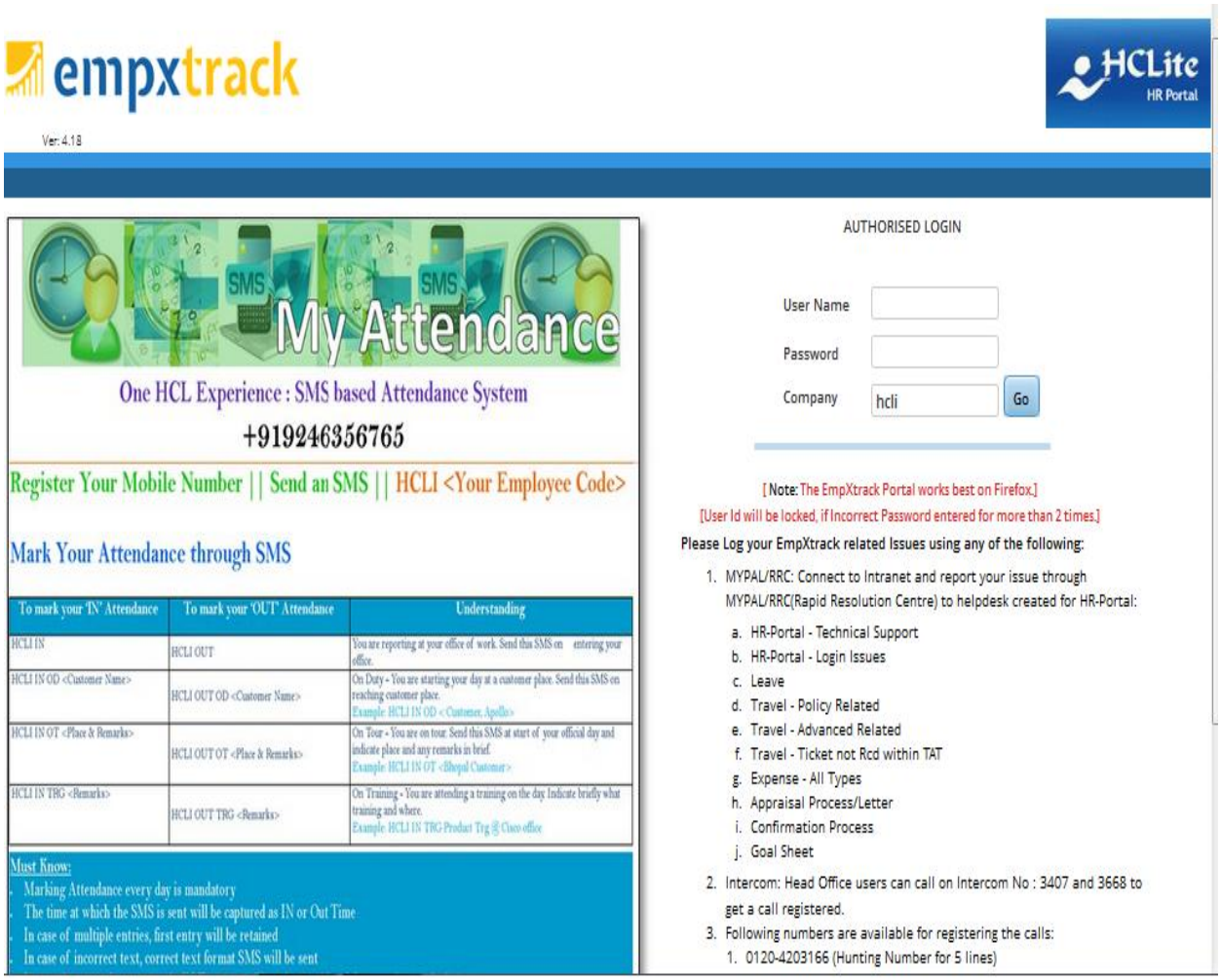
Figure-3.10: Human Resource Blueprint (HCL)



Source-http://www.hcltech.com/business-services/human-resource-outsourcing

As per Corporate portal HCL Technologies (2014), HCL have various link in their corporate intranet and group network portals for human resources to express their intellectual feelings and learn symbiotically. A portal known as "Women Connect" is a shared set of connections that aspires to support an all encompassing and gender-unbiased employment climate where each human being has the chance to share, propose something different in policy formation, and guide for modification and alteration. HCL provides career guidance and other sources via portal www.hclwomen.com. A distinctive stage known as "Genie "acts like a custodian and facilitates staffs rent a home, hotel bookings, tickets for movie or flights, etc. The trainers or instructors are sponsored and are accessible round the clock through either mail or phone. At HCL female employee can harness specific counseling provisions to stabilize for work life balance. Any recommendation or proposals linked to code of conduct can be shared with ethicsdialogue@hcl.com, a platform to assist staff handle ethical impasses. Lateral recruits of HCL on some occasions provided online training.

Figure-3.11: Human Resource Portal (HCLite)



Source-https://hclite.in/hrportal/logon.do?activity=display

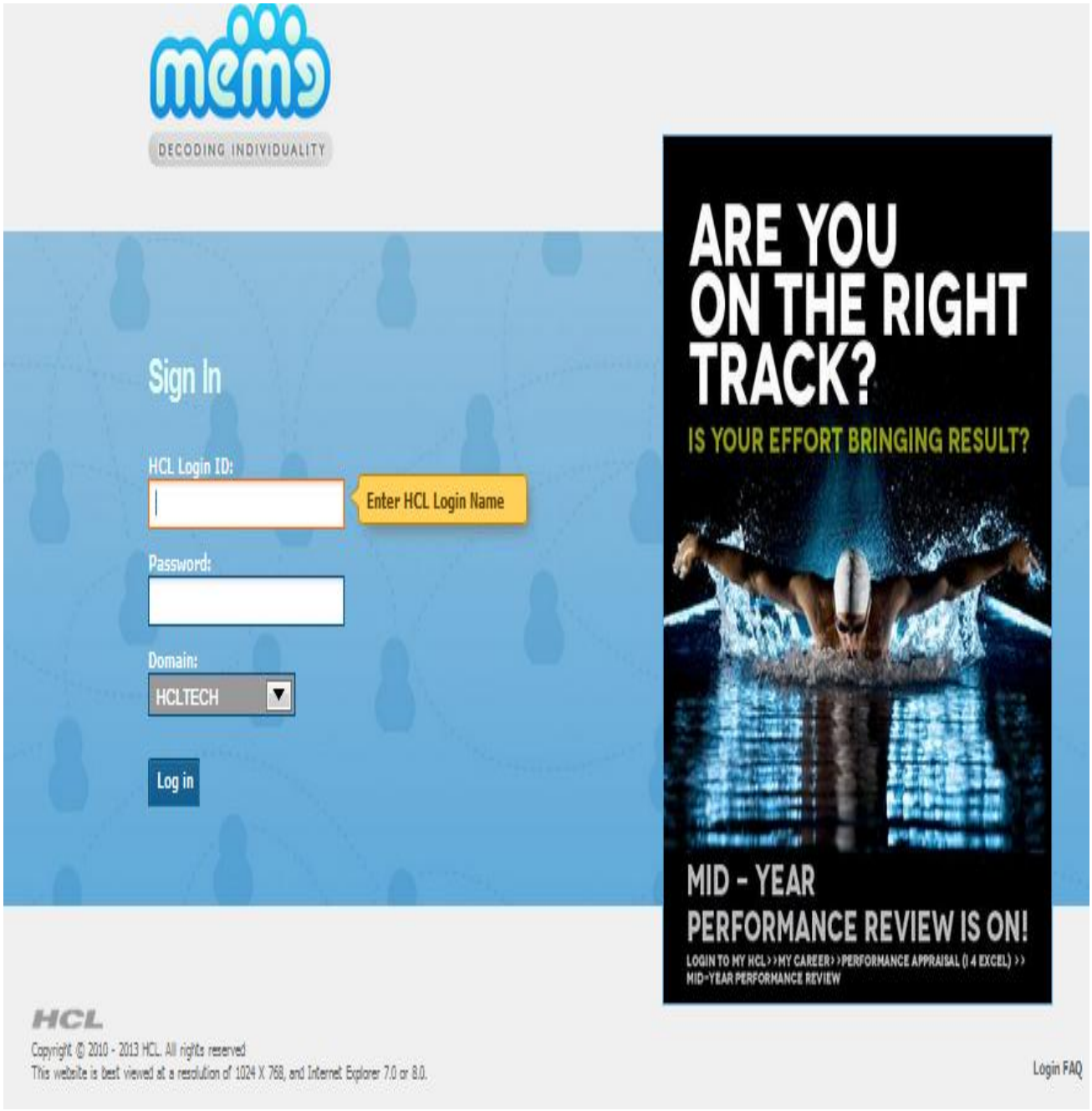
As per corporate portal HCL Technologies (2014), now a day, business are under pressure to handle communiqués of the new generation employees who are experts in handling digital word and technology savvy and innovative. HCL understood the need of the day and to garner the advantages from close alliance at place of work, they have to think at the innovative ways to connect these young personnel and build a business of coming days. With a goal to create strong communication conduits with new breed employee and to exploit their vigor effectively and efficiently company formed a social networking site which was vibrant and interactive in character. By this pioneering thought, a stage where they can exchange their ideas, thoughts, views, and contribute in debates globally, brand new platform known as " MEME" was formed.

HCL MEME is a stage for personnel to go from official to social @ work. HCL MEME is employee first customer second (EFCS) 2.0 scheme but MEME has led to employee driven, management embraced (EDME) thought. This is a social networking site formed by staff. One of the special characteristics of MEME, it is governed by employees not by the company. MEME has already more than 60,000 employees as members. MEME had been successful in idea creation while discussing issue for HCL's CIO straight talk, a stage initiated in year 2010 to support exchange of practical ideas amongst senior IT professionals on a broad range of organizational and technology issues. MEME clients utilized this stage really well by having a straight interaction with a range of enabling departments like personnel function. Human resource linked lots of inquiry have been solved. MEME has facilitated HR function in reducing the query solving time by 90%. This is being used by different departments to commence surveys and feedback openly in transparent ways.

As per Singh, N. (2014), the biggest and most vital reason of growth of MEME is freedom of thought, and liberty it ensures to employee when they post or share audio, video or text**.** As per chief HR officer of HCL Technologies "Pirthvi Shergill" with inception MEME, it was all around accepted by the employees of the organization and lot of innovative ideas just came up from myriad projects and people working in diverse field. A lot of ideas which was shared on MEME is now a part and parcel of business and has been actually implemented. In first seven days of inception of MEME more than thirty thousand of staff joined from across the globe.

At the earliest these employees started sharing news, views, ideas, and comments and started loading file, video, audio and other activities fit for social media. Presently more than seventy five thousand of employee are connected and utilizing MEME in 24*7 mode. From career perspective it is of great help as employee can aspire for present and upcoming roles and responsibilities through Career Connect. Career Connect facilitates employee in achieving carrier goals in several way and has also provision of employee referrals. Through it employee can do their SWOT analysis. The overall integration of workforce globally the company is confirming its faith of all inclusive by 'inverting the pyramid of command'.

Figure-3.12: HCL (MEME)



Source -https://meme.hcl.com/

HCL Comnet is IT services management subsidiary of HCL handles projects, infrastructure, domain execution, network & communiqué linked functions. Way back in 2004, the company initiated an internet based instrument to link employee known as Smart Business Manager

(SBM). This is a workflow- based computerization and communication program, which links all personnel globally. It follows scrutinizes and renew company's functioning encompassing various business applications such as ERP, personnel and sales force management. It is a real time reporting and time monitoring tool, which is transparent.

As per Corporate portal HCL Comnet (2014), E-HRM is to enhance personnel efficiency, it guarantee a free flow work culture. Human resources at HCL Comnet are self motivated functions in the direction of employee goals. E-HR is all-inclusive information instrument compiles every staff's information through web. The safety has been provided via exclusive username and password, the web based tracker enrolls salary aspect; leave administration, training and learning calendar, effort tracker, financial, credit and money matters are all present to the personnel in 24X7 mode at the just a hit of the mouse or keypad.

HCL Comnet "Smart service desk" is a one-of-a-kind human resource scheme for its workforce. This eradicates the requirement for a member of staff to actually go to any division for any trouble that one is having. Smart Service Desk, is a linkage present on the computer, which can be accessed via intranet, in case of any crisis. The problem could be small or complex, the procedure is same.

- Open the "Trouble Ticket".

-Select the nature of a problem, mentioning the department.

- Issue it to the suitable person as specified through selection.

-Mention nature of problem – query, problem or request.

-This trouble ticket is forwarded to the designated section with copies to that section head,

- Section head allocates the difficulty to a suitable employee.

-The employee has been provided a set time limit to solve the problem – called concluding the trouble-ticket.

-The issue can closed only if either the individual, raising the crisis cancels the appeal or when the crisis has been solved.

-The reaction time is noted which is replicated in his performance appraisal.

-This characteristic makes sure that whatsoever the difficulty is, staff time/ competence should not suffer due to hurdles/ troubles beyond one's control.

For HCL Comnet the employees (internal customers) are as significant as the external clients**.** Through the Smart Service Desk, HCL Comnet aims to eliminate the need for internal customers to chase up other departments for any problem that they have. It not only increases efficiency but also ensures complete transparency – the underlying corporate philosophy of the company.

To gratify the high-speed information requirement of the staff; the intranet has been provided to all the personnel on their computer screen. Human resources can access intranet, which is renewed at regular intervals and has information that is centered to personal and professional growth. The sections under which information is regularly updated are technologies, new accounts, business plans, returns, future prospect, notice boards, business bulletin etc.

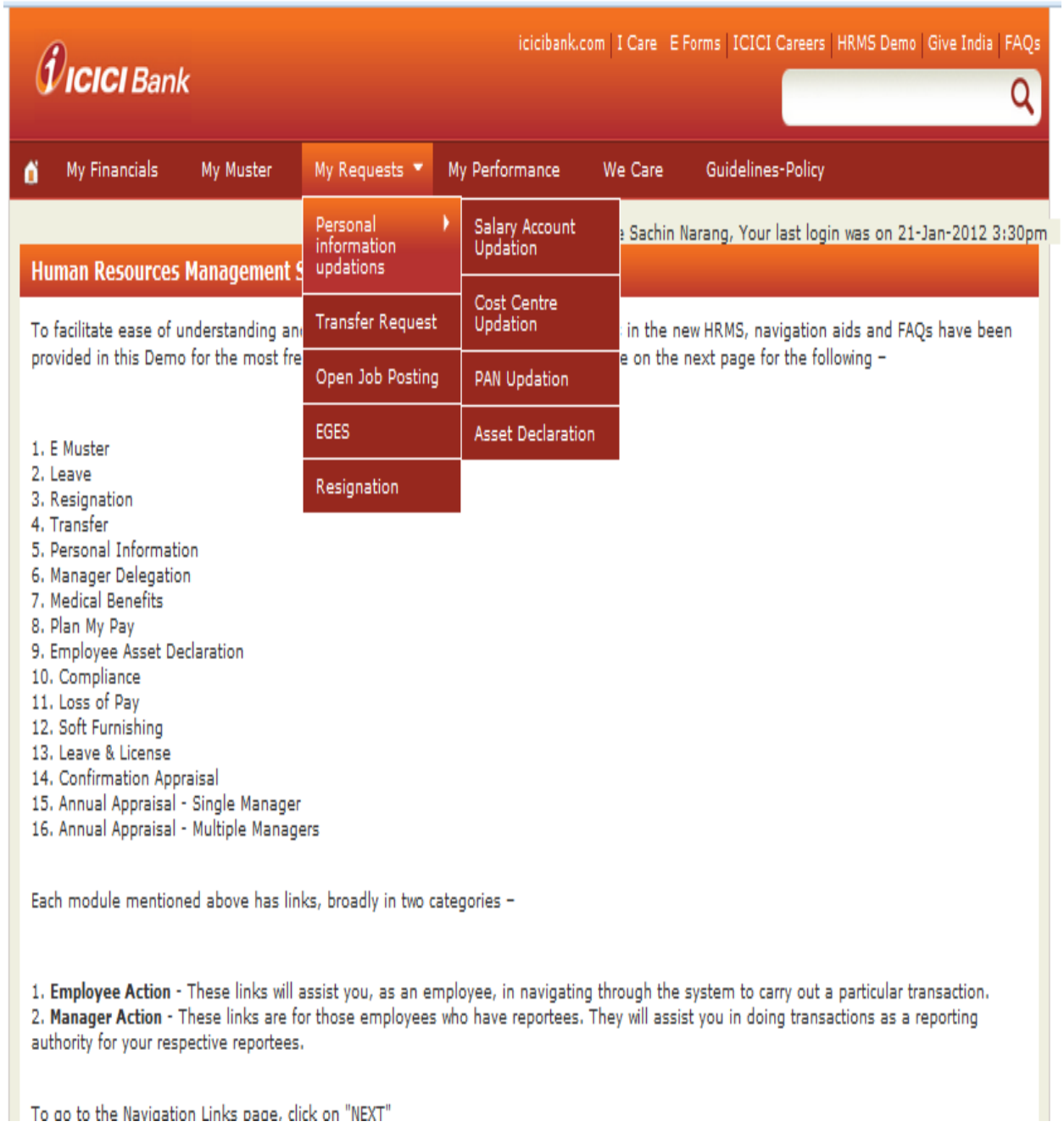
3.3.3 ICICI BANK- ICICI Bank is one of the leading banks in India having private ownership and its headquarters at Mumbai, Maharashtra. ICICI Bank has diversified itself to delivers insurance and other financial services and it provides a plethora of services to both institutional and household sector of economy through various specialized channels in insurance (life and nonlife), portfolio management and seed capital management. It has more than 60,000 employees on its payroll. Since its inception the company has established many milestones which banking, insurance and other financial service provider companies would like to achieve. The bank has global presence and it has its subsidiary in Europe (United Kingdom, Belgium, Germany, and Russia), North America (Canada, United States) and in various parts of Asia. The organization felt that the change starts by self modification and this stated with by becoming pioneer into an internet enabled company.

As per Varma and Gopal (2010) ICICI Bank has workforce 26,000 on its pay roll an estimated 100,000 potential candidates pass through selection process round the year. Moreover think of such a huge workforce, a great section of them in a situation of transition due to posting, change in work location, promotion, resignations, retirements, etc. At the moment, by computerization

and integration of the majority operations, including recruitment and other life events of employee and incorporating them into a inner HR management system, organizations of such a huge size like ICICI Bank are capable to run their human resource department not merely with less number of staff but more efficiently and effectively . As per Prabhu, D, (2006), initially, the business developed a web based technology-linked platform , together with a corporate intranet, "ICICI Universe", proposed to provide a stage where, for example, personnel could check the human resources system for vacation entitlements, book days off or view their personal pension details.

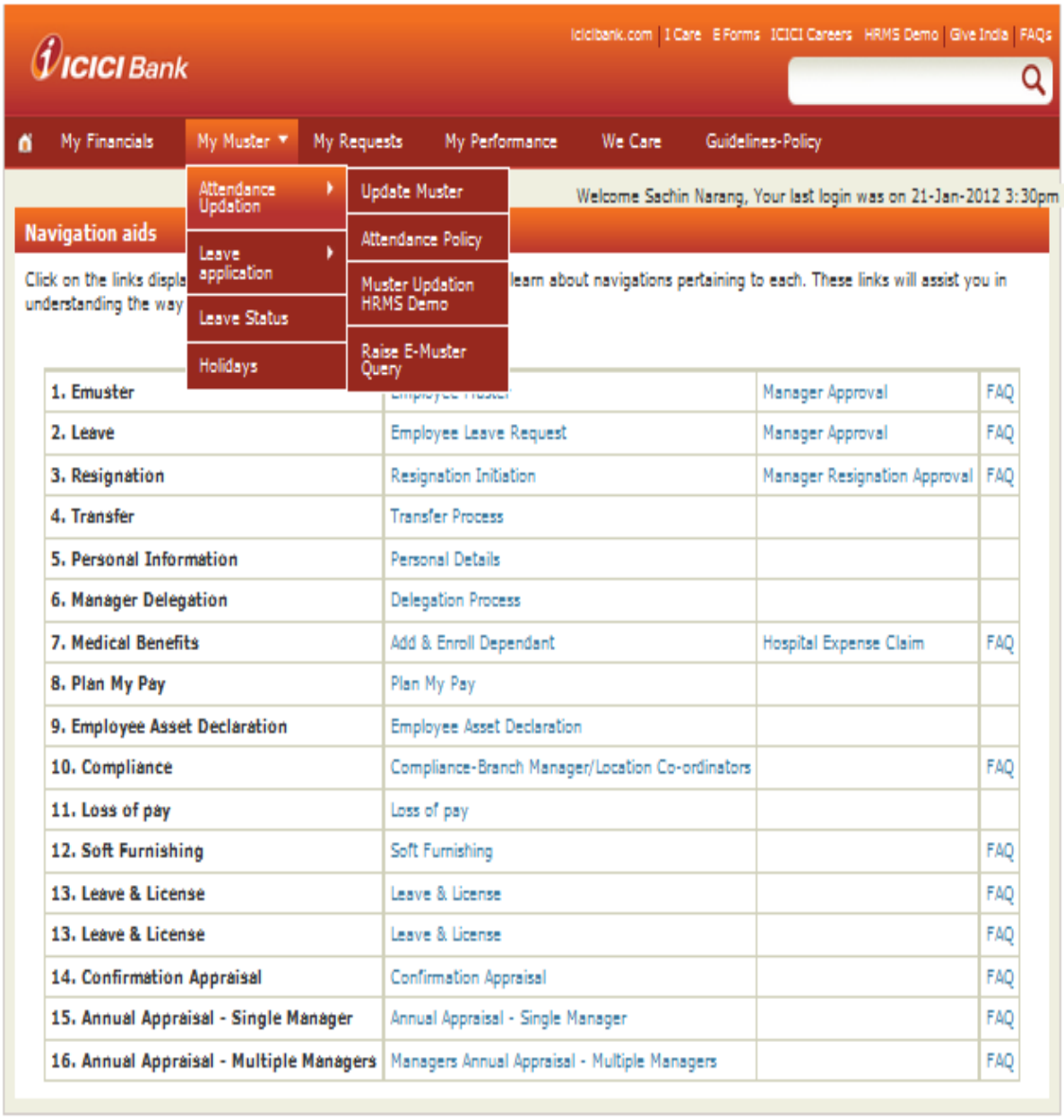
As per Varma and Gopal (2010), at ICICI Bank's e-HR portal workforce cannot only verify their leave days , loan entitlements, provident fund (PF), gratuity, leave travel allowance (LTA) status or the current value of their Employee Stock Option (ESOP) online but deal in those stock options as well. Fascinatingly so, the week's canteen menu is offered on the portal and food can be ordered using internet. As per Kamath, V. (2000), all staff bears a coded identity card which is shown to the electronic device and the amount gets punched in. Food consumed in canteen by personnel are routinely updated and adjusted against monthly pay of the next month. ICICI's intranet has a travel section. A click gives the timetable of all the flights. One can get the position of his leave on the computer - how many days leave he has availed and how many more to go. One can put his leave request on an on-line form and it's communicated to superior, who, in turn, examines it and, once cleared, it's communicated to employees. ICICI's intranet even have tie up with a shopping centre on the web, and now even restaurants and hotels are providing concessions if booking is made through intranet. The portal has become central to service delivery and acts as a new way to run the organization.

Figure-3.13: ICICI BANK- Human Resource Management System (HRMS)



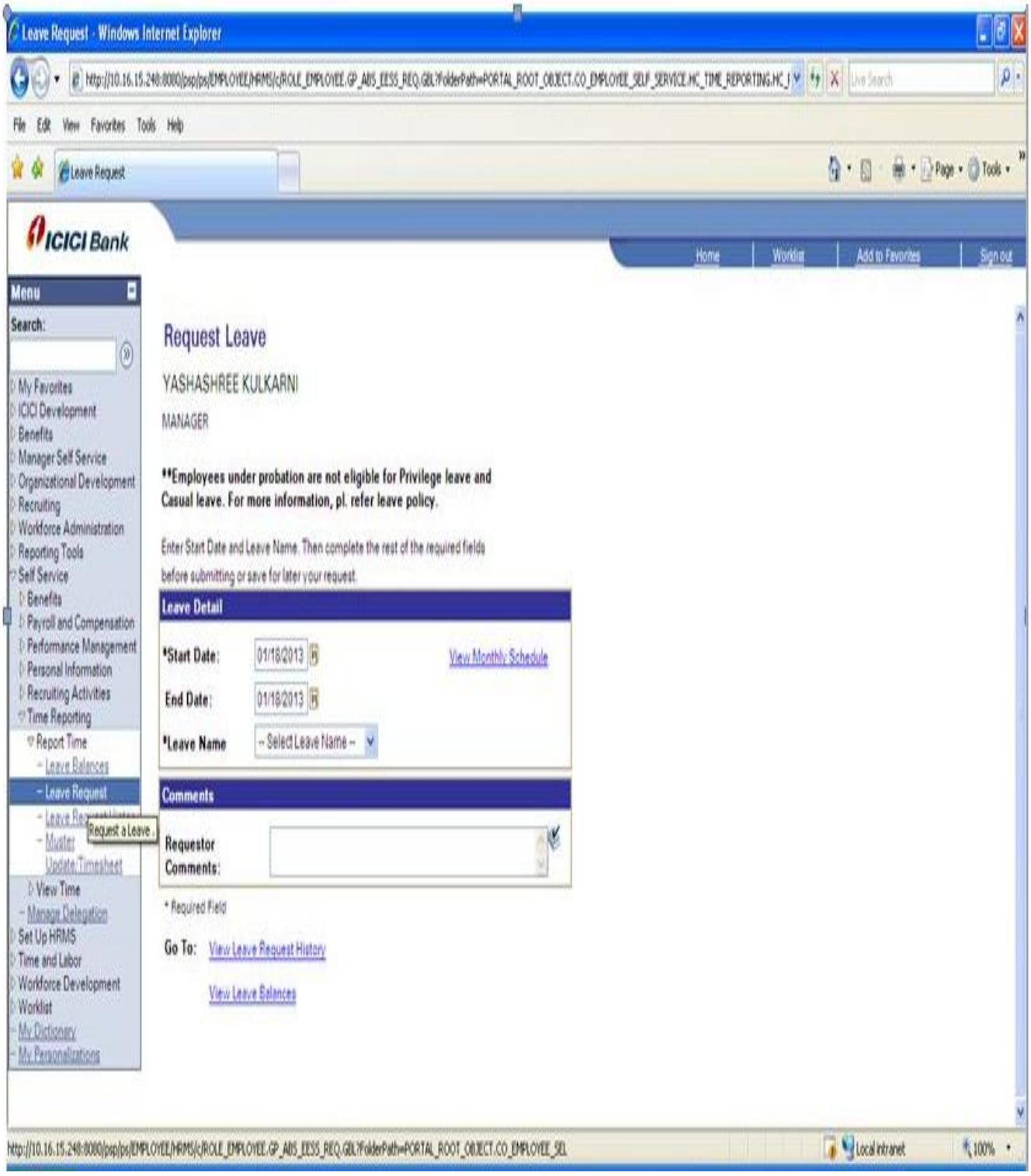
Source-http://118.139.182.133/hr4u/hrms_demo.html

Figure-3.14: ICICI BANK - Human Resource Management System- Navigation Tools



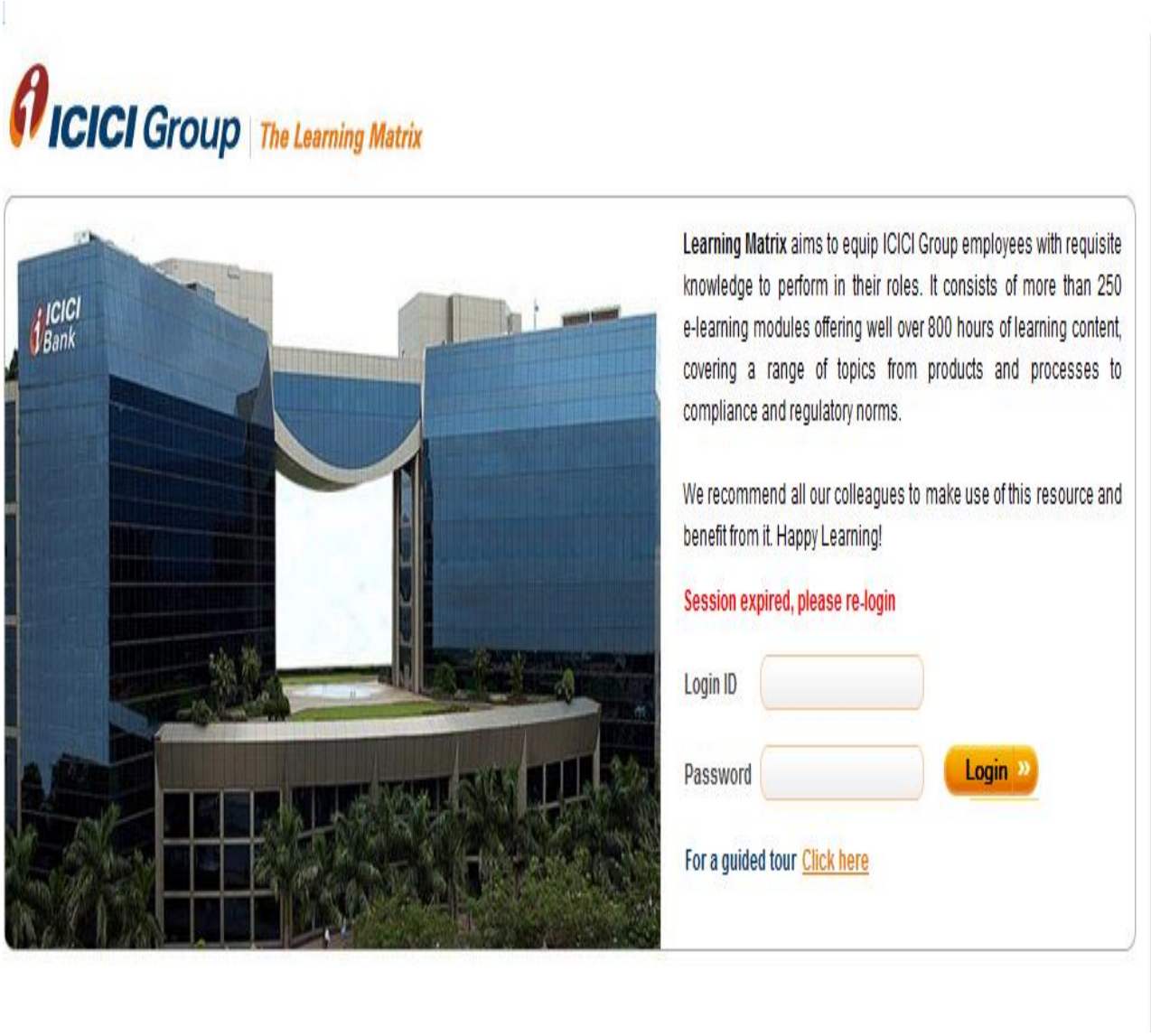
Source-http://118.139.182.133/hr4u/navigation-aids.html

Figure-3.15: ICICI BANK - Human Resource Management System - Leave Request



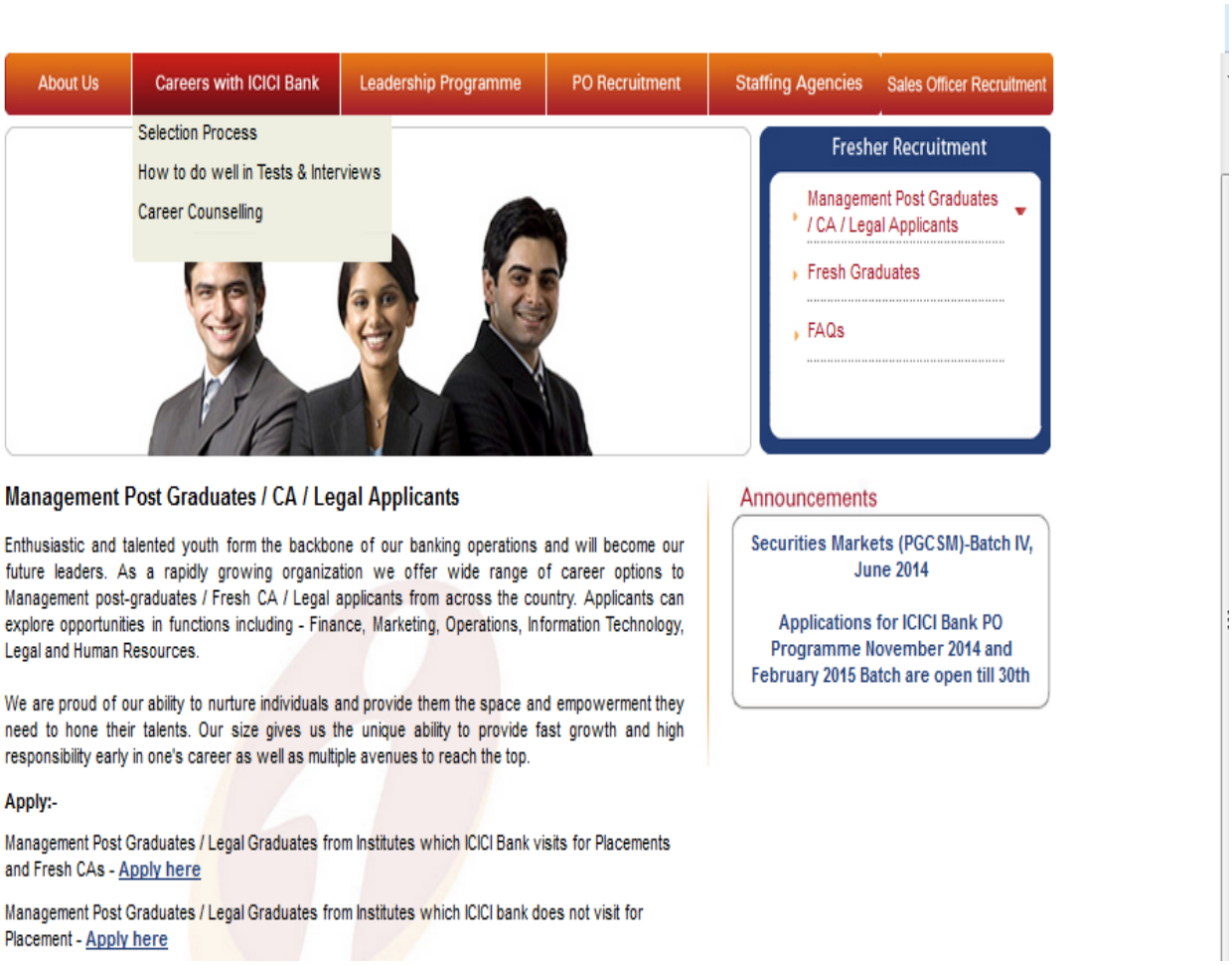
Source -http://118.139.182.133/hr4u/LeaveRequest.html

Figure-3.16: ICICI Group- E-learning portal



Source-
https://learningmatrix.icicibank.com/ICICIBANK/ICICIBank/Login.aspx?enc=TD/mb8yHKcemClPhxqtnhA==#

Figure-3.17: ICICI Bank- E-recruitment



Source-https://www.icicicareers.com/icici_career/management-ca-legal.html

As per Prabhu, D, (2006) what began more as an idea and less as a project was simply the belief that staff should have a space on the intranet where they could participate in collaborative activities, such as contribute or find documents, engage in discussions and post or answer queries. "WiseGuy" was the answer of these thoughts. ICICI's Knowledge management (KM) intranet portal known as "WiseGuy" is simply available from the main employee's portal. Since inception the major goal of the portal was to offer a mode of capturing and spreading the acquaintance and experience of outgoing employee. The goal and aspiration of WiseGuy has seen a sea change, is now more concerned with building a climate and culture and thrust

among employee to obtain and spread knowledge and ideas. "WiseGuy" has some other objects like connect this vast new pool of employees with each other; to share business-related information about clients, deals and ideas; to manage staff through the change process via communication, messages, channels and so on; to overcome the problems caused by staff turnover; to ensure that every person in the company is adequately equipped with the skills and training required for their jobs and for lifelong learning and development.

WiseGuy functions as staff satisfaction driver applies and operates as a delivery instrument to carry key information-handling activities: sharing, teamwork and formation of self-help group. The Knowledge management (KM) programme is intensely rooted in the ICICI's bank culture, but not as an end product of any command from higher level management. Human resources use the Knowledge Management (KM) Portal because employee sees its advantages and recognize the worth it brings to them on a daily basis. Approximate 6,000 employees strike WiseGuy every day. The WiseGuy KM portal also includes a plethora of divisions such as file management, news, digital sections such as business and news magazines, research files, atlas, address list, foreign currency and time calculators, information on a wide range of corporate houses and sister concerns, comprehensive personnel information, and, interactive segments such as debate column, inquiry boards, paper and book reviews, quiz contest, the prizes and acknowledgment scheme and many more.

The capability to be trained across the team and from group members is a very authoritative instrument. Wise Guy aspires to create a learning culture by encouraging alliance and push factor, including a web magazine e-mailed to each personnel before 9.30am and is known as "The Daily Dose". The Daily Dose counts breaking news, headings, view, poll reports, events, client admirations, bulletin, circulars and other daily updates. WiseGuy's document-management system offers a managed view into otherwise overwhelming enterprise content and provides users access to personalized content with team-specific interfaces to improve collaboration. WiseGuy creates e-Circulars to inform and educate staff on regulatory and compliance matters. At ICICI workforce are motivated to contribute and be a part of the portal by prizes and acknowledgements along with details of contributor as the paper or article gets published on the portal.

3.3.4 LIC OF INDIA- Life Insurance Corporation of India (LIC) is an organization owned by central government of Indian. LIC has it's headquarter at Mumbai, Maharashtra and basically deals with life insurance products. LIC through its subsidiaries has investment business; housing finance is the main operation of investment arm. Before 1956 insurance business in India was mainly handled by private players. Life Insurance of India Act was passed by the parliament of India in 1956 and nationalized the private insurance business of the country.LIC of India conducts its functioning and operations not only within India but also has its global foot print and has branches in various parts of the world. Before liberalization LIC had complete monopoly over life insurance business and had established benchmarks in the country which other companies aspire to achieve. Still LIC had highest market share in insurance business. The company has its branches in countries like Bahrain, Mauritius, Fiji, Sri Lanka, United Kingdom, Nepal and Kenya.LIC has a joint venture company at Saudi Arabia and company taking initiative to start its operations at Newzeland, Australia and some Asian and African countries. The company has employee strength of 1, 12,000 (tentative) all over the world. Serving such a huge workforce and providing HR and services and streamlining the operations were a tedious task. For reducing the stationery material cost, and intra-office communication, digitization was the only solution.

Life Insurance Corporation of India is among the first few establishments in India who pioneered and understood the power of information and communication technology (ICT) in providing services to their customers and their employee. LIC had been relevant and updated appropriate technology over the year for its operations. 1964 witnessed the commencement of information technology in name of computers in LIC and in 1980's microprocessors based computers were commenced in local office and regional offices for back office automation. The homogeneity in computer system (hardware and software) initiated in year 1990 and homogeneous software was developed and started functioning. Presently Life Insurance Corporation of India operates with 2050 fully computerized branch offices, 109 divisional offices, 8 zonal offices, 992 satellite offices and the corporate office. LIC's Wide Area Network (WAN) covers 109 divisional offices and links all the branches via a Metro Area Network (MAN). All branch offices have been connected to Local Area Network (LAN). Life Insurance Corporation of India (LIC) has now made its services more widespread and available by extending its Wide Area Network to every

nook and corner of the country. LIC's WAN, MAN and LAN network is a wonderful exemplar technological knowhow being applied to rationalize functioning and take workforce satisfaction to advanced levels. WAN of LIC can now support multimedia audio and video and has established a web server. The renewed and extensive WAN restructures human resource processes, building it simpler for LIC employees direct entrée and function devoid of any unwanted obstruction. All this converts into improved effectiveness and efficiency levels in operations. LIC was also capable to reduce on intra-office long distance interactions and messages, via voice on internet protocol and video conferencing technology on its wider area network.

To provide all these facilities to employee Life Insurance Corporation (LIC) has a all-inclusive online portal known as "Jeevan Sanchar" a internet-based integrated software to provide the requirements of workforce. " Jeevan Sanchar" is web-based system, which presents a single-point individualized interface and a wide range of substance and facilities to workforce. This is an entry point to access LIC's diverse services. Beside compiling and delivering information that is pertinent to particular group of users, accomplishment of" Jeevan Sanchar" has empowered widespread application of safe internet utilizations for the information propagation and service deliverance to human resources. Workforce can log into the " Jeevan Sanchar" serial number (SR. NO) made available to them by the LIC, Portal will channelize to personnel portal and staff can avail HR concerned facilities.

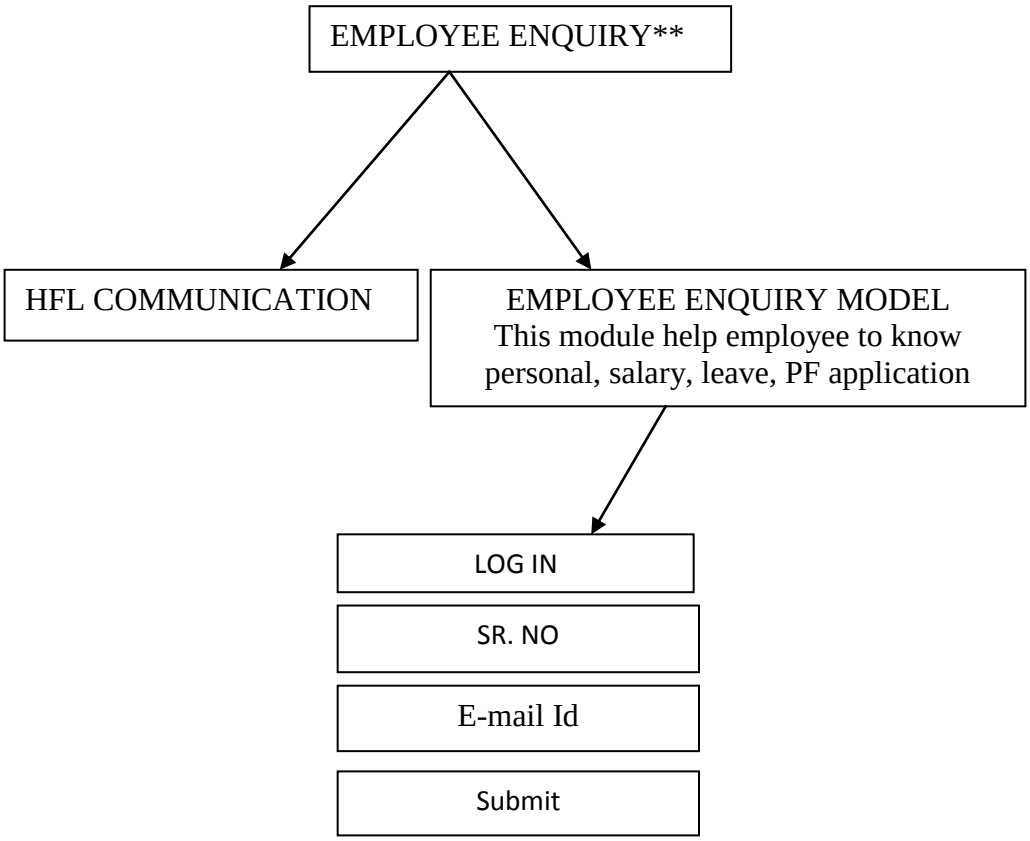
Life Insurance Corporation's, Electronic Front End Application Package (eFEAP) deals with the transformation of Front End Application Package (FEAP).The eFEAP is the main insurance solution of LIC and provides the software requisites of all the workstations and locations of the establishment. Latest development i.e. Electronic Front End Application Package (eFEAP) offers superior client-interfaces, integrated records supervision and remote support.

Figure-3.18: Highlights of "JEEVAN SANCHAR" Front Page

QUICKLINES	ENQUIRIES	INFORMATION
Idea box	Policy enquiry	LIC profile 2013
Marquee model	Policy EDMS image	Media room
ICMS	Branch enquiry	e-forms
Infotech	e-mail enquiry	Premium point grid
Check e-mail	e-mail search	Corporate identity
EDMC	Premium point list	Programme
Hardware Helper	**Employee enquiry****	LIC mobile
Knowledge Management	Hindi tool	

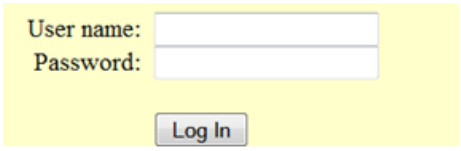
Source- compiled by researcher

Figure-3.19: Highlights of Employee Enquiry**



Source- compiled by researcher

Figure-3.20: Log In eFEAP



Source- compiled by researcher

As per Yogakshema (2007), Knowledge Management Portal (KMP) is a project, where the knowledge base of information technology workforce is compiled in a record for repossession and use by personnel of LIC. All the workforce of LIC can access the Knowledge Portal. The subsequent are the few steps to access knowledge portal

1. Open intranet, Jeevan Sanchar.
2. Move to the link available as Knowledge Management.
3. Log in by putting the serial number, e-mail-id and password.

After proper verification by mail server, the clients can have vision of the record. This is to limit the utilization only to personnel of LIC. There is a practice in LIC to put audit follow up and administrative verification in place to certain that someone else is not taking unwarranted benefit of the existing database. Information can be availed on as and when requirement basis. Training and learning matter is also offered on the Knowledge Management Portal. The inputs for the portal come from the personnel and examined and uploaded for the utilization of personnel. A mail-id, with address km@licindia.com has been formed for this reason. Knowledge Management Portal (KMP) has altogether minimized the time needed to develop new or existing personnel significantly and has also minimized the endeavor needed to make them multi-skilled.

3.3.5 Moser Baer India Limited- Moser Baer is one of the most important global tech-manufacturing company of India having its headquarters at New Delhi. Moser Baer is one of the world's biggest producers of optical storage medium like compact disc (CD) and Digital Video Disc (DVD) was established in 1983. Over a period of time, Moser Baer has started manufacturing pen drives and flash memory cards. Beside storage devices company has also forayed in the business of movie CD and has copy right of several films. To fulfill the current requirement of nonconventional source of energy company has also started manufacturing photovoltaic cells. The company has its branches in various parts of the world and has offices in over 100 locations of the world and served through 15 marketing offices and representatives in United States of America, different states of European Union, Japan, Russia, Malaysia, Chile, Ukraine, Egypt, Argentina, and has technical and business tie-ups with many top level optical media storage business producers. Moser Baer India Limited's products are being vended at several countries (more than 82 countries) of the world. The company produces its products at its three manufacturing facilities situated at Greater Noida, in National Capital Region of Delhi. The company has more than 8,000 workforces on its payroll. Moser Baer has one of the sound HR practices in the country and has developed different online portals for easy communiqué and information sharing with workforce.

Moser Baer is using as well as selling Ramco Human capital management Model (HCM) SAP integrated suite for their HR services. Various units in this suite application inculcates human capital management Model (HCM) - solution landscape assimilating services, human resource planning, recruitment and selection, on-boarding talent management, employees management, staff support system, salary & attendance management. It has facility of user management & safety, flexible workflows, individualization, survey support, on-requirement reports and data migration facilities. Through integrated software suite HR functions like recruitment, workforce administration, international mobility, time and attendance reporting, workforce planning, resource planning, payroll, expenses, travel management, occupational health & safety, talent management, contact & case management is operated.

Human resource intranet named as "My Moserbaer", offers platform linked to individual data administration, HR manual, training and learning, payroll, daily shift administration, leave, in-house job posting, cafeteria, exit and options to the most of the life events of staff. Workforce

can vend used household items by mentioning the features of the item, quotation and uploading the picture. Automation of core human resource processes, such as employee administration, legal reporting, payroll increases efficiency and supports compliance with changing global & local rules is hall mark of My Moserbaer HR intranet. Majority of the services are made available on employee (ESS)/ (MSS) manager self service mode.

My Moserbaer offers self-service admittance to the central HR systems so managers and employees can input individual data and carry out transactions on internet. It makes employee independent, minimizes paper utilization, streamlining procedure swift diffusion of important information on a wide range of topics, facilitate human resource to accomplish a variety of task, links member of staff and regulates HR operations. With "My Moserbaer" HR help desk, if human resources have any question, inquiry and concern are appropriately captured analyzed and quickly determined and owners comment is offered on issues not covered under the pertinent instructions. Any matter forwarded via intranet and process owners answer the raised question and forward to the concerned member of staff with the carbon copy addressed to help desk dedicated resources within the fixed time limit. The help desk resources present MIS and percentage compliance to defined service level agreement in the plant monthly review meeting. Member of staff can raise their complaint on line e.g., absenteeism, leaves, overtime (OT), and miss punch. HR MIS set up report on regular basis like new recruit, resignation, overtime, attendance, leave, compensation & referral cases, late reporting & early leavers & take corrective action as per organization's rules.

As per Corporate Responsibility Report (2012) The HR policies are noticeably and visibly shared with our acquaintances. Each concerned has access to all policies in their personal Intranet Portal Account wherein all vital and pertinent information is uploaded. The staff can find all aspects regarding his/her leave, salary slips, performance management system (PMS), cafeteria details, daily attendance on My Moser Baer. Training Management Portal contains all information on training need requirement gaps identified and development programs planned for each associate. A process has been intended to put into practice the learning and training programs with a yearly calendar preparation and putting it to monthly training schedule. "My Moserbaer", portal enables smooth & efficient capturing of information, reducing paper work

and increasing the efficiency of the process and helps identify the gaps. Self learning is facilitated by the intranet, library and online portal. HR Help Desk is provided to the employees for grievance handling.

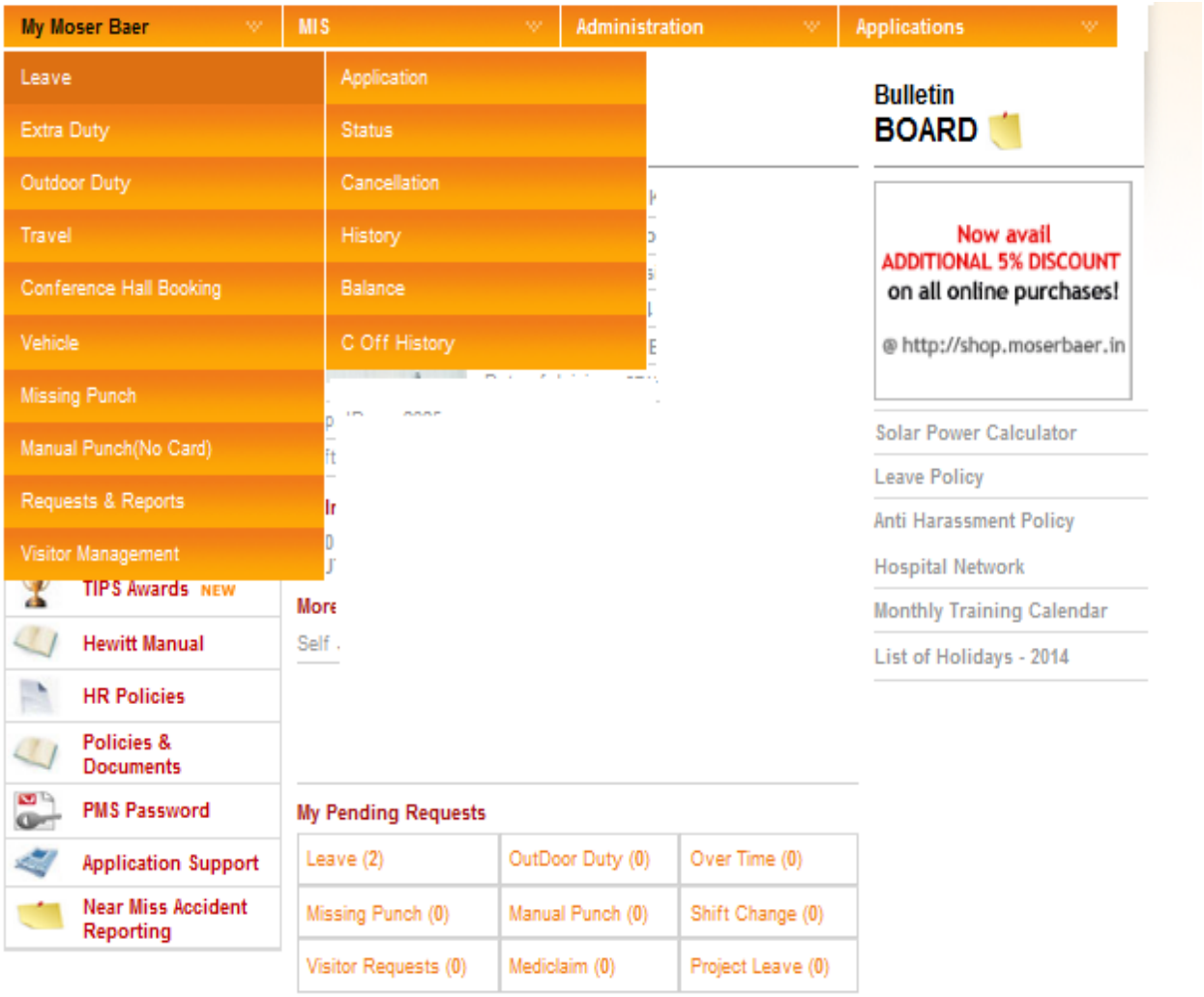
FIGURE-3.21: -MY MOSERBAER

Source- http://bizapp1.moserbaer.in/MyMoserbaer/

FIGURE-3.22 (a): First Page after Sign In- MY MOSERBAER

Source- http://bizapp1.moserbaer.in/MyMoserbaer/

FIGURE-3.22(b): First Page after Sign In- MY MOSERBAER



Source- http://bizapp1.moserbaer.in/MyMoserbaer/

3.3.6 National Thermal Power Corporation Ltd (NTPC) - NTPC Limited is a public sector organization under the Ministry of Power, Government of India, involved in the business of production of electricity and related activities. It was established in1975 to fulfill the shortage in electricity production capacity from conventional energy source coal. Today, NTPC's main business is engineering, erection and operations of electricity generating plants. The sum total of electricity production capacity of the organization is 35000 MW (Tentative) with 15 coal based and 7 gas based electricity producing stations, situated from all over the country**.** Total employee strength in NTPC is 25,500 (tentative) and boasts a team of 536 HR professionals.

Human resource at NTPC is a three level structure. The group/corporate level human resource is involved in policy formulation, the regional HR set up facilitates and monitors the implementation process while the workstations or actual working site HR have the main duty of execution of policies and systems. The three layers in the HR department of NTPC function in integrated manner. There are lots of IT facilities to make HR delivery mechanism automated to a large extent.

NTPC has executed an Enterprise Resource Planning (ERP) system covering large number of functions across the company encompassing sister concerns. . This ERP project called `LAKSHYA' has imparted a cutting edge to the company in terms of efficiency, flexibility of functioning, transparency, and quicker response to internal and external stakeholders. In addition to the core business processes and employee self service (ESS) functionality, the ERP solution also includes e-procurement, knowledge management, business intelligence, document management, workflow etc. To take care of staff self service requirements of far lunged located personnel, linkages via internet has been provided through safe access. The ERP structure is completely handled through in-house proficiency from functional teams and technical teams and concurrently in-house solutions have been developed to handle non-ERP issues.

SAP- ERP Human Capital Management Model (HCM) has altered conventional human resource department into all inclusive system. It enhances the worth of workforce and assimilates human resources, operations and policy to carry business aspirations. Automation of main employee processes, such as staff administration, legal issues, and payroll enhances competence and facilitates conformity with changing international & local guidelines. The company is capable of creating project teams based on proficiency & accessibility, supervise their growth on particular projects, track the time they spend, and analyze the results. Equally important, integrated talent administration functions in ERP provide human resource managers insight into company's talent to more effectively forecast, attract , acquire, train, align and retain the talent required to maximize the effectiveness of the business. Recognizing high achievers and probable successor assists business reduce disturbance when executives and top level managers go on leave, resign or superannuate.

At NTPC employee self service (ESS) takes care of majority of requirements of the workforce. The staff can select a meal of his choice through ESS. By ESS one can put his demand for transfer, verify current position of reimbursement and loans one has forwarded via ESS. Request for transfer or relocation and requisition of human resource necessity are also posted and supervised on line. Even performance management system (PMS) is ERP based with a provisions of timely transfer of records. The areas of learning and training and industrial relation are being supervised and managed by human interventions. It feeds necessity of human resource department in reward, employee benefit administration, compensation, career planning and knowledge management system.

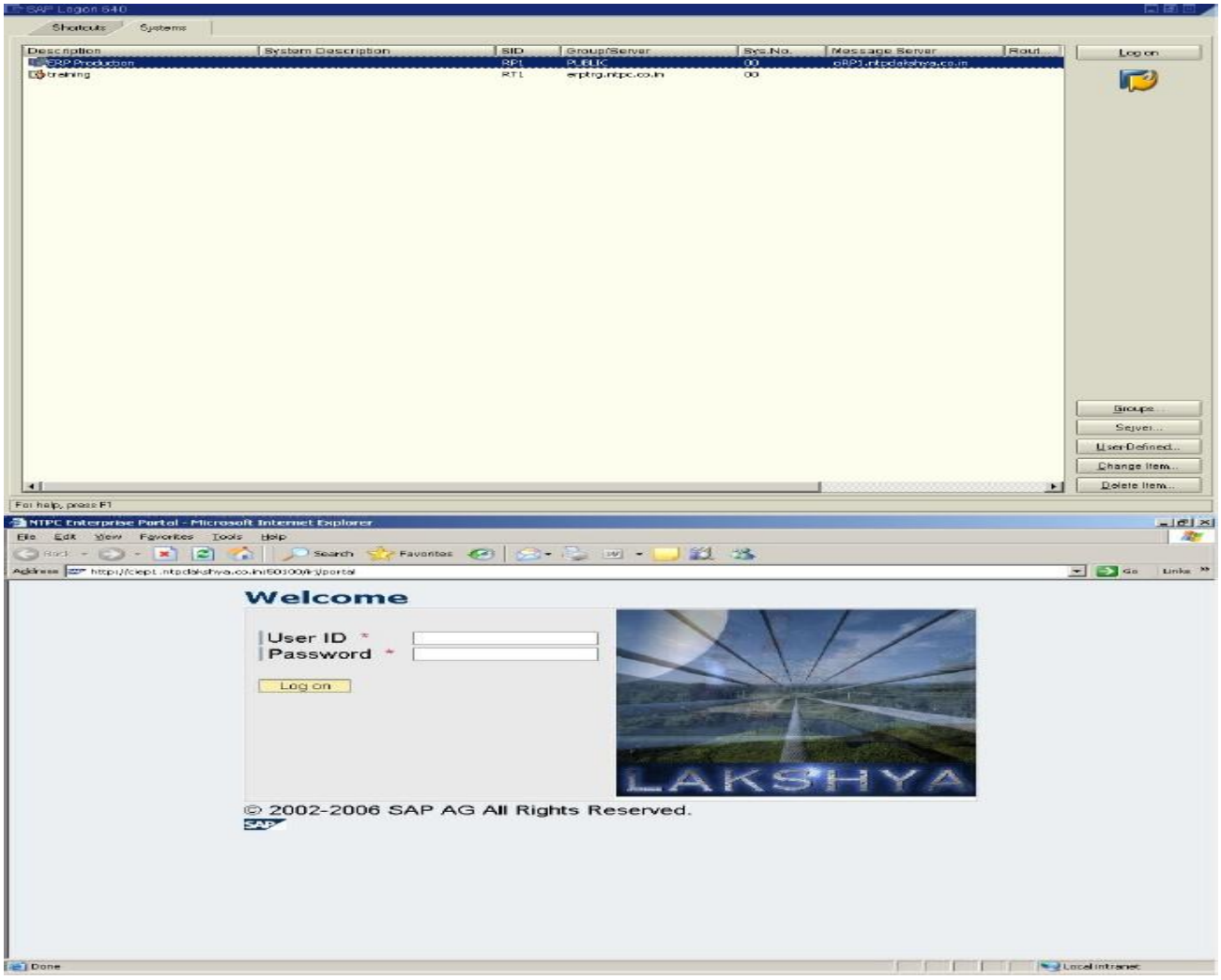
NTPC has implemented SAP to bring all functions of the organization under one roof with uniformity in all processes throughout the organization. To fulfill the growth strategy of the organization, NTPC paid emphasis on standardization and harmonization of practices and paid attention on providing services in homogenous manner. The company was integrated as single unit, geographical boundary became history when company inaugurated 'Project Disha – Organizational Transformation' with the goal of uniform technology and same process and system by flawless incorporation of ERP software amid all its processes with single outlook of the business as a unit. To achieve this ERP software was implemented at every workstation and office. The mission Project Disha mobilized diversified workforce as a single unit resulting in to efficient utilization of resources especially human resources. At the inception of the Project Disha preparing workforce for change, creating awareness and providing training to the employee was a major challenge faced by the company however these hurdles were removed successfully and in the end company is harvesting the benefit of implementation of Project Disha.

As per NTPC Director Report (37th Annual Report, 2013), to ensure that implementation of ERP works smoothly at all the functions and locations every attempt has been made to make ERP quick and rapid and this has been achieved by making the bandwidth twofold. For reliability and consistency a parallel network has been established via different service provider. Videoconferencing facility is available at every workstation and office for conference, meetings

and project evaluation and monitoring. At Noida, Power Management Institute (PMI) has arrangements of virtual classrooms which can be availed at other sites of the organization.

Beside all these right to information (RTI), parliament question management, legal system, transit camp booking requirements etc has been on digital platform. For retired personnel web site with URL www.ntpcexemployees.co has been developed and it takes care of their requirements. In a true sense ERP has enhanced the worth of workforce and assimilated personnel, processes, mechanism, delivery tools & business strategies to provide competitive edge.

Figure- 3.23: Employee Self Service (ESS) HR Module-1 (Screen Shots)



Source-

file:///C:/Users/User/Desktop/14/SAP%20ERP%20HCM%20in%20NTPC%20Limited.htm

Figure- 3.24: Employee Self Service (ESS) HR Module-2 (Screen Shots)

Source-

file:///C:/Users/User/Desktop/14/SAP%20ERP%20HCM%20in%20NTPC%20Limited.htm

NTPC in their corporate portal has provided a link “Career with US ”, which is for external job seekers and provides details of vacancy and acts like recruitment portal where on line applications can be filled and different forms can be downloaded

Figure- 3.25: E-Recruitment Portal of NTPC.

Source- http://www.ntpc.co.in/index.php?option=com_content&view=article&id=102&Itemid=37&lang=en

The company has an e-mail facility having a server with database of users that can be identified by it. This mail service is for employees having company name and facilitates communication internally and to outsider clients, vendors and other service providers.

Figure- 3.26: Web Mail Service of NTPC

Source-https://mail.ntpc.co.in/

3.3.7 State Bank of India (SBI) - SBI is public sector bank having it's headquarter at Mumbai, Maharashtra.SBI has diversified itself to provide insurance and other financial services. It is the largest bank of India in terms of asset and market capitalization. It has more than 16000 branches has 190 offices abroad. It has more than 2, 28, 296 employee on its payroll. Since its inception the company has established many milestones which other banking, insurance and other financial service provider companies would like to achieve.

SBI Human Resource Management System (HRMS) Portal is a SAP supported Management System, an attempt to assist workforce in carrying out their human resource associated actions with no difficulty. It is operational online for assistance of State Bank of India personnel and administrator. SAP Net weaver assists in the areas of Human Capital Management (HCM) and Enterprise Resource Planning (ERP) such as electronic-learning, virtual classrooms, competency assessment, succession planning, performance management and career growth. The HRMS of company is utilized by the SBI staff for human resource related inquiry and doubts like pay slip,

pension slip, PF, income tax calculation. The main goal of the portal is to offer personnel benefit scheme is to have excellent service in particular segment. All the updates of significance whether it is major or minor are notified to the personnel via this portal. The portal plays a very important role to recruit required employee as and when required.

SBI HRMS most important aim is take the business ability of the organization to highest horizon and to be supportive to every employee of the SBI for their work performance**.** SBI Human Resource Management System (HRMS) has a service platform to provide Human Resource Management System (HRMS) related inquiry; 'Service Desk' has been inaugurated in all circles and branches to exploit it. (Link available in 'HRMS portal-> Link for Branches-> Service Desk' and 'State Bank Times->Useful Links 2-> State Bank Group Service Desk', URL is: http://10.4.236.141/caisd/pdmweb.exe)

- All services linked to provident fund are accessible through the SBI Human Resource Management System (HRMS**)** Portal. The linkages are accessible underneath:-

Employee Self Service->PPFG

Manager Self Service->PPFG

Staff can make/alteration nomination in gratuity by Human Resource Management System (HRMS) Portal. The link is Employee Self Service -> PPFG -> Gratuity.

To entrée to Human Resource Management System (HRMS) portal via mobile, i-pad, i-phone etc website is URL https://hrms.onlinesbi.com/mobile for salary slip & tour approval.

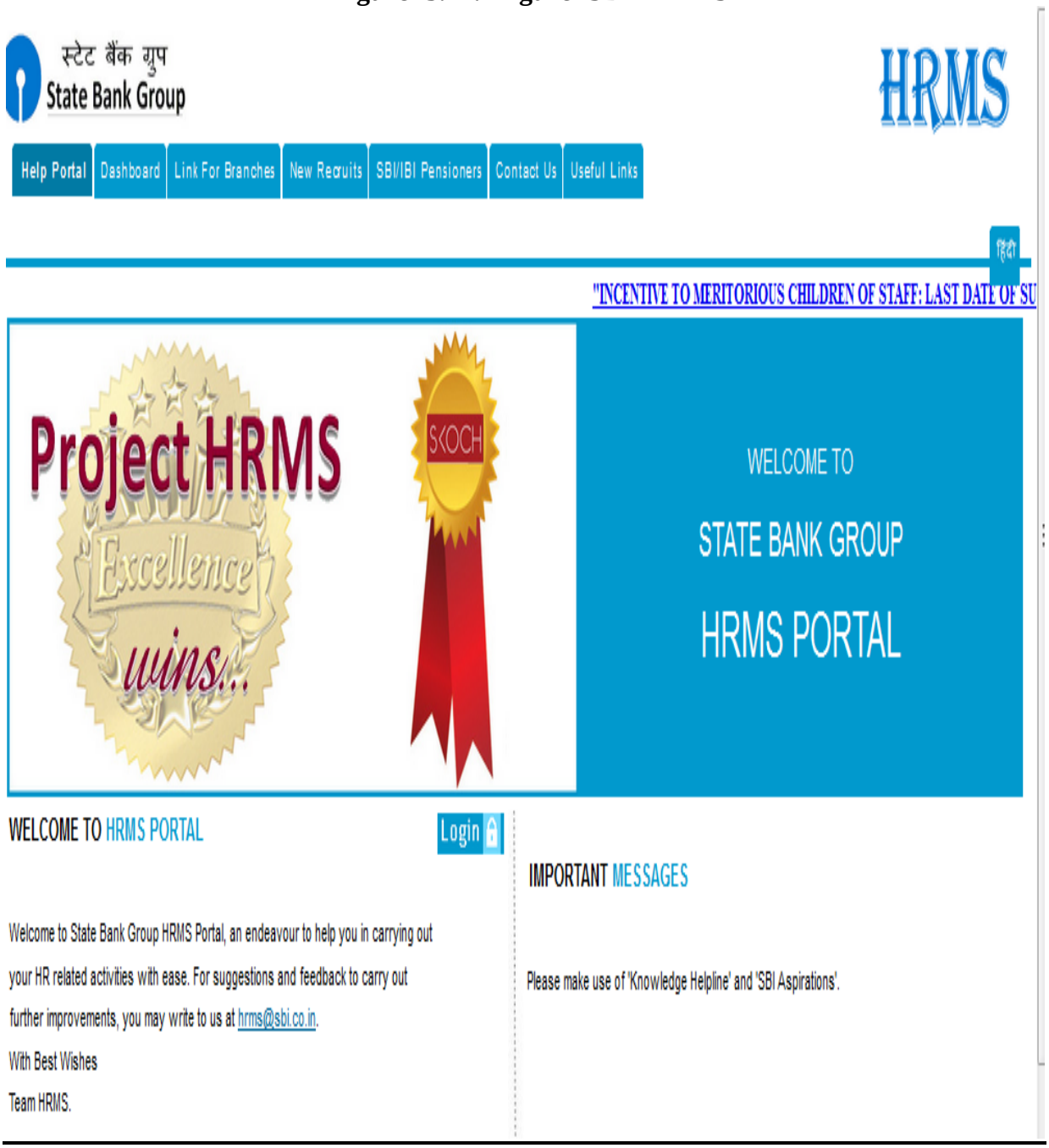
Few alterations like professional/ educational qualification, training and development, personnel address can be made by following underneath steps. (For instance the footsteps to be followed to renew or change educational qualification information online through HRMS website)

-First, visit HRMS website (https://hrms.onlinesbi.com/irj/portal.) and login to account

-Second step is to go through “Employee Self Service” then here select “View/Search”

-Now in resume department, do all the required alterations. (It has to be rectified only if the staffs need to correct the data through HRMS Portal.)

Figure- 3.27: Figure- SBI- HRMS



Source-https://hrms.onlinesbi.com/irj/portal

Figure- 3.28: SBI- Human Resource Management System (HRMS) Log in

Source-https://hrms.onlinesbi.com/irj/portal

SBI is now provides platform to verify the complete description of the retirement fund and pension to retired person is credited each month directly into bank account of the pension

holder. It is also feasible to observe and print the delivered pension slip. The income tax deduction is automated and amount to be paid by the pensioner depends on the PAN number, the Dearness Allowance (DA) provisions are provided by the bank to the pensioners. Currently with all alternatives on homepage of SBI Human Resource Management System (HRMS) Portal, retiree has to steer to "Pensioner Self Service" to renew individual information. To have a vision pension-slip and upload investment statement form, the web site address is https://www.sbi.co.in/sbipension/user.htm

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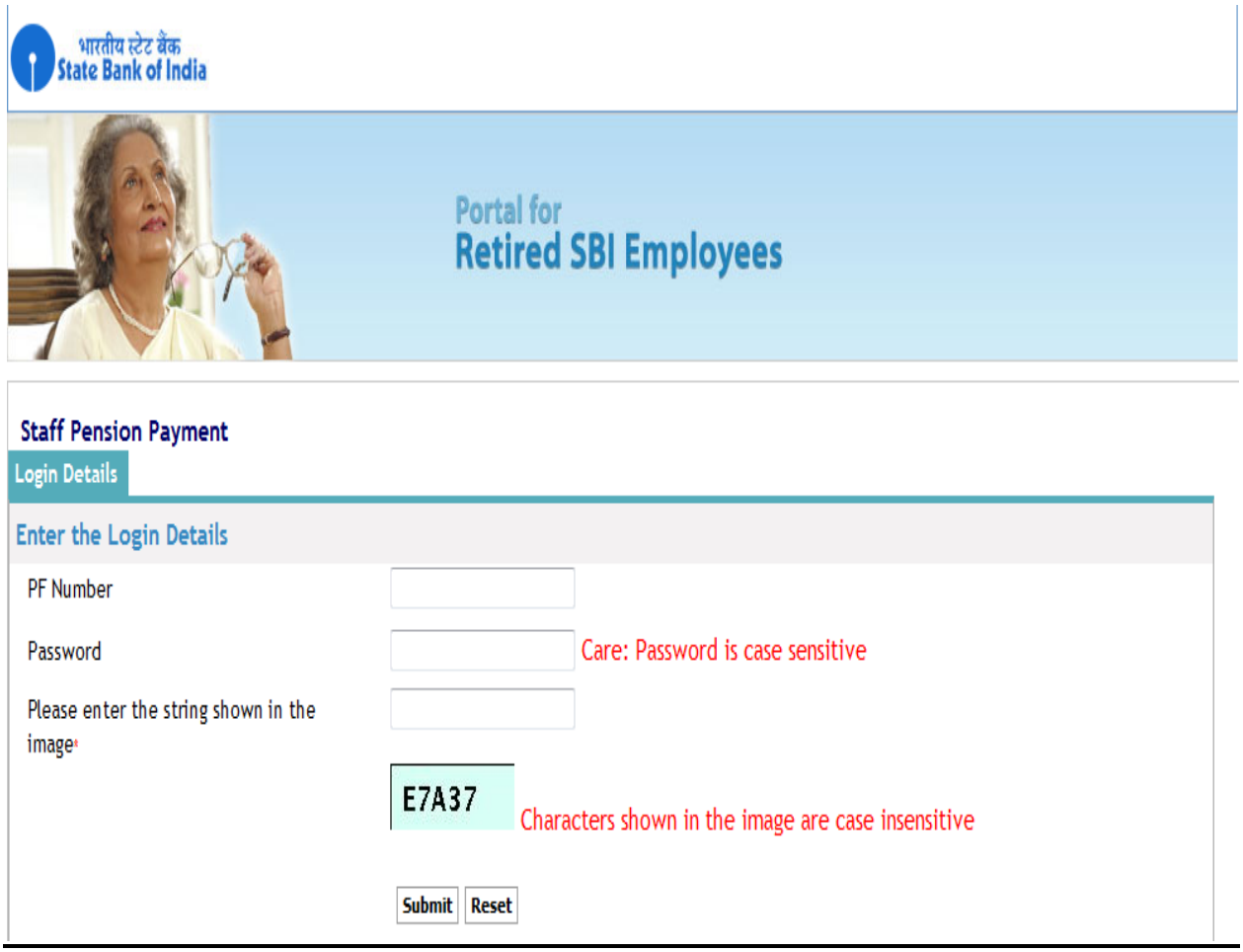
Figure- 3.29: PENSION Log in (SBI)



Source-https://www.sbi.co.in/sbipension/user.htm

3.3.8 Tata Motors Limited- Tata Motors is India's multinational company with operations and office spread over various locations of India and abroad, is the largest automobile company of India. It is considered as market leader in commercial vehicles segment, and amongst the major players in non commercial vehicle segment. Tata Motors ranks fourth in truck and bus manufacturing worldwide. The organization has more than 63,000 (30,000 permanent) employees and is a dynamic company with state of art manufacturing establishment in India and abroad. Tata Motors through joint-ventures, subsidiaries and associate companies has worldwide presence and its production and operations spread across Asia, Africa, South America and Europe. The establishment has ventured into new marketplaces and has acquired new brands like Jaguar and Land rover to reinforce global footprint. The company has a healthy operational Enterprise System Model Manual (ESMM) comprises of organizational level systems and sub systems. The ESMM is occasionally reviewed and restructured to depict the changes in company's operational necessities and alteration in different processes.

As per SAP AG (20O7), till late 90's there were several in-house developed software applications that administered all of the business prerequisites. As software was fragmented and developed in various phases over long periods of time and also they were available on various platforms and hence very complex to integrate with all other business functional applications. One of the major shortcoming of the inheritance applications was that they were for particular purpose, task and place specific and were developed on local and individual perception of necessitates. Universal and rationalized procedures and practices along all managerial units were not imposed. As a result, administration of functions like HR stretched across the nation and their corporate office was tiresome and lingering. Diverse HR functions were disjointed and were, causing hindrance in individual operations. This led to needless boost in overhead costs and replica efforts at on every occasion.

The organization quickly learnt that the need of the time was an integrated synchronized database that gave the latest information to all their stakeholders - both in-house and external. They had to move from their inherited decentralized platforms into a merged enterprise platform and rationalize the business practices across the different units. The organization could provide

their internal customers information much better and quicker, even though dropping operational expenditures and reducing HR cycle times.

The company determined to go in for the SAP -ERP Human Capital Management Model (HCM), for HR functions which proved to be panacea of all the evils of fragmented application software. The SAP Solution allowed them to develop business link by integrating the database and functions across the nation into one solo entity. The business no longer needed any locality-specific technical know-how and thus much effortless to operate**.** The mission was put forward by Tata Technologies, which is a sister organization of Tata Motors. So Tata Technologies became their implementation partner. In the mean while SAP India provided consultancy to Tata Motors. With the SAP ERP Solution in place, Tata Motors understood significant advantages in productivity and cost control. As a result sum total of servers as well as the number of various applications run on them has greatly come down.

The SAP ERP HCM model gives advantage of correct and reliable data. The system has been initiated through a centralized system and deployed to diverse HR function across the business. This assisted integrate systems seamlessly across the value chain to send better service quality. SAP Human Capital Management system realizes expected business worth and advantages and built a motivated and high performing group and managed performance and acknowledged growth on development areas of individuals by means of appropriate mechanisms. It Identify succession plans and back-ups for key roles recognized and socialize achievements of the team, identify and clearly communicate performance issues in the team followed by inputs. This is helpful in governance and compliance. ESS in Tata Motors act as a change initiator by creating value for internal stakeholders as they are not expected to remain dependent on the middle man i.e. HR executives. It authorizes employee to execute various recurring task like payroll, attendance, leave, event management, training & development on their own.

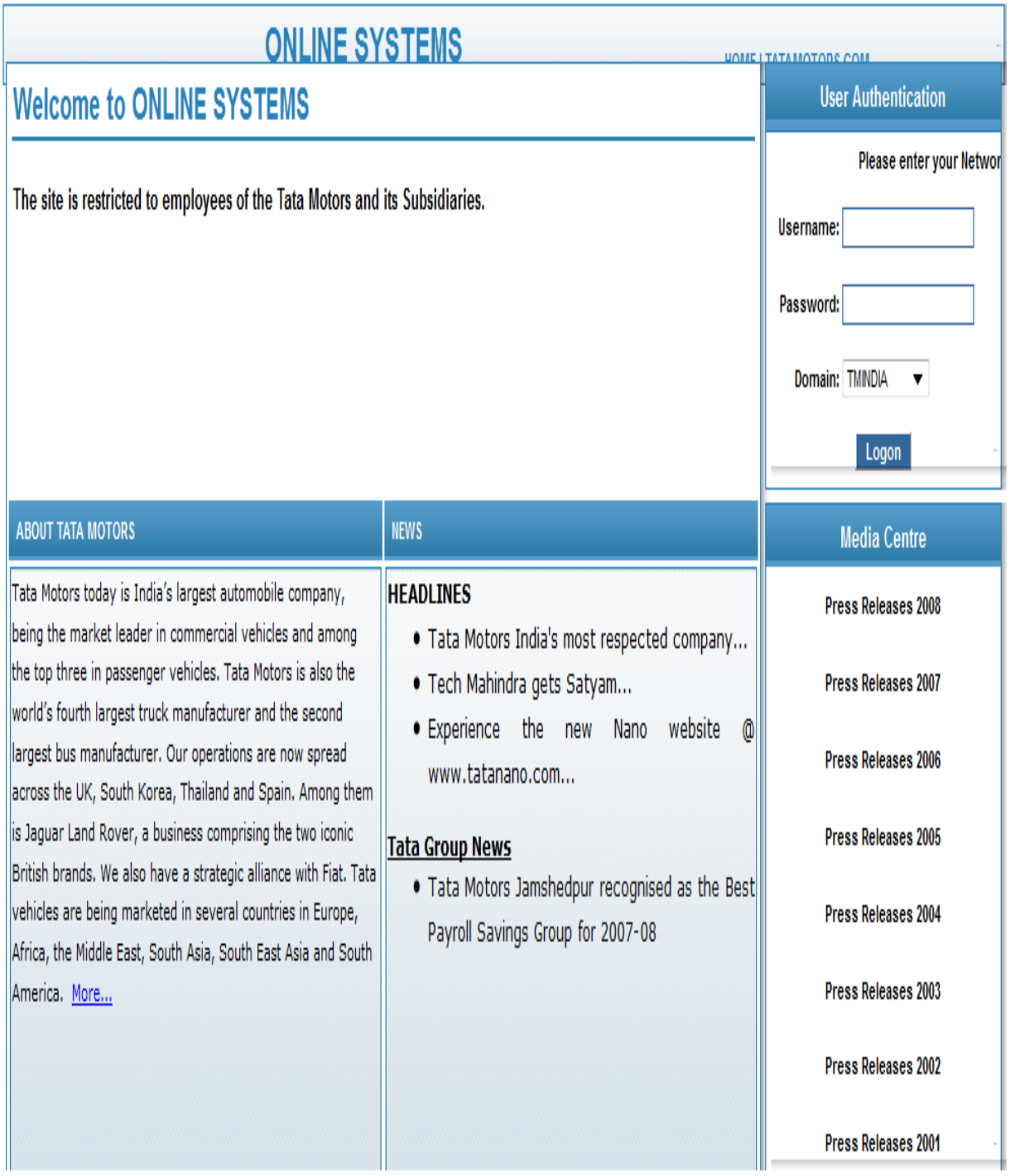
HR values of Tata Motors are information technology facilitated people process to carry out human resources strategy with tools in learning management system, work force induction performance management and other life events of employee . Information technology facilitates and supports business growth and competitiveness by delivering strategic programs and services

as recognized by the Tata Motors. The organization strengthens the usage of IT in HR application and processes for effective and efficient employees management. Synel Attendance Recording System (Biometric) has been incorporated with SAP. Tata Motors has incorporated its WAN with ancillary companies for seamless operations.

As per Sixty Seventh Annual Report (2011-2012), ability development, spearheaded by the Tata Motors Academy, has enabled knowledge-sharing through schemes, such as Learning Management Systems (LMS) and iTeach. LMS permit workforce to take ownership of knowledge accumulation, while the iTeach offers a platform for senior management to share their proficiency and knowledge. These guarantees implicit knowledge transmission, breaks silos, develops leadership, minimize cost of third-party training and receive incentive points for people sharing their knowledge with co-workers. The idea of Learning Advisory Councils (LACs) has been recognized as a practice of global standard. Through LACs the company or the department recognize their learning preferences, which they own, appraise and strengthen. Today employees are self motivated and learning has become a pull factor rather than push factor, unlike in the past, when HR would drive the process. The HR function is delivering learning programmes in electronic platform to attract generation Y, tech-savvy workforce of tomorrow. Now almost 90% of learning programmes are web based. As per Corporate Sustainability Report (2012-13),Tata Motors Academy has started e-learning assistance for executive and dealers to drive a tradition of self-learning and make the learning process more comprehensive and competent. The e-learning curriculums have been very well acknowledged with over 80% of white collared workforce have accessed the Tata Motors Academy portal and 5,800 workforces have finished at least one of the e-learning programmes.

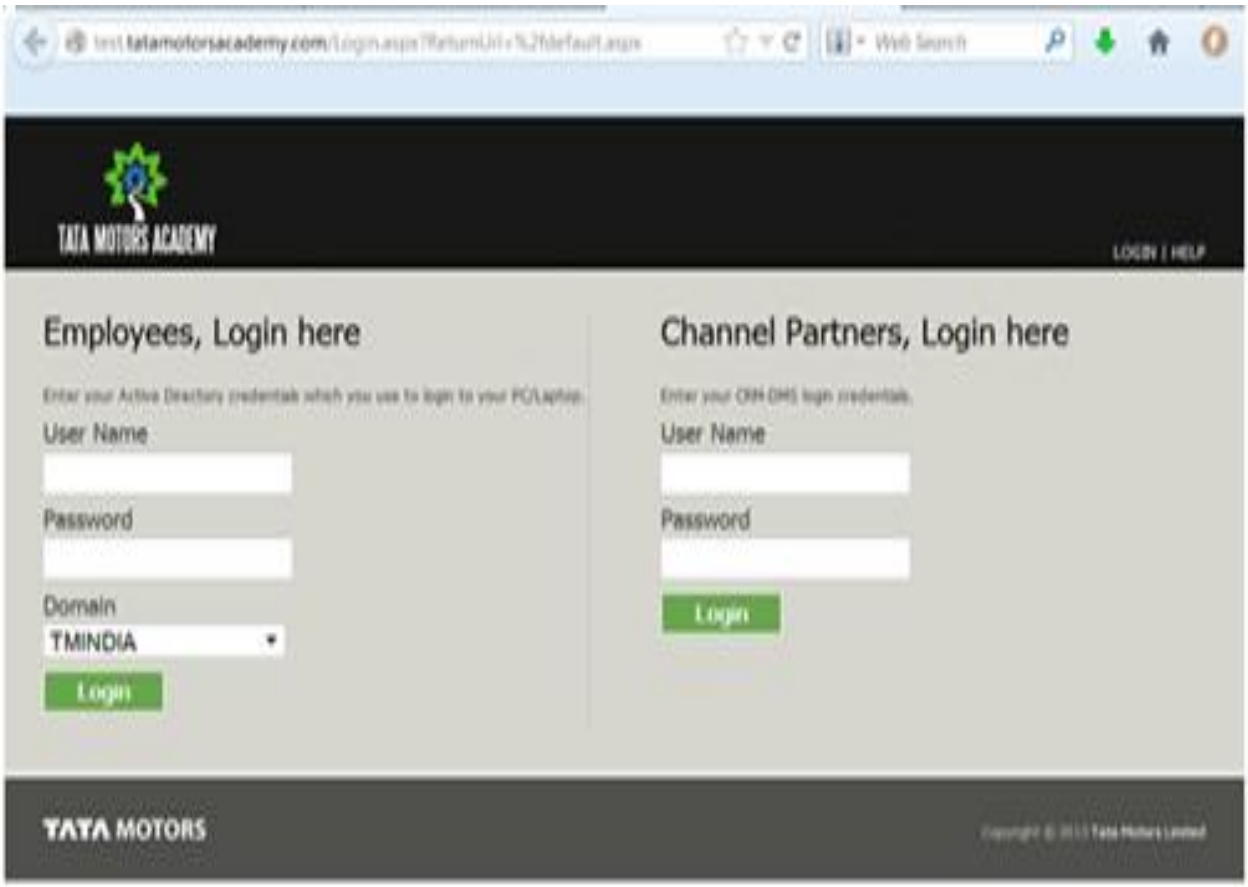
The new individualized compensation policy puts a lot of accountability in the hands of line managers. A considerable part of performance measurement, talent management and judgment criteria today are about applying hardwired HR processes to support what is in reality a soft enriching transition. Tata motors have built up high-level brand equity around a variety of HR interventions by applying e-HRM.

Figure- 3.30: Employees on Line System (MY TATA MOTORS)



Source- http://onlinesystems.tatamotors.com/%2852qsoj553o1gfx55k2tfphmk%29/login.aspx

Figure- 3.31: ACADEMY Log In (TATA MOTORS)



SOURCE-http://test.tatamotorsacademy.com/Login.aspx?ReturnUrl=%2fdefault.aspx

Trends in select Indian organizations are encouraging show most of the select organizations have intranet and providing HR services in digital platform. Self service (Employee/ Manager self service) is an integrated part of intranet portal. Some organizations like HCL and ICICI bank has Web 2.0 applications and to some extent providing HR related services in social network platform. Most of these organizations have implemented ERP software and HR services are a part of integrated business solution. Now most of select organizations have also activated HR services on mobile phone platform and employee can download apps and can access services in any where -any place- 24*7 mode; provided net connectivity. CIL is laggard in self service applications and digitization of HR services only limited to transactional and publishing of information. Interactive voice response (IVR) hardly finds any space in providing HR related services in select Indian organizations.

CHAPTER-4

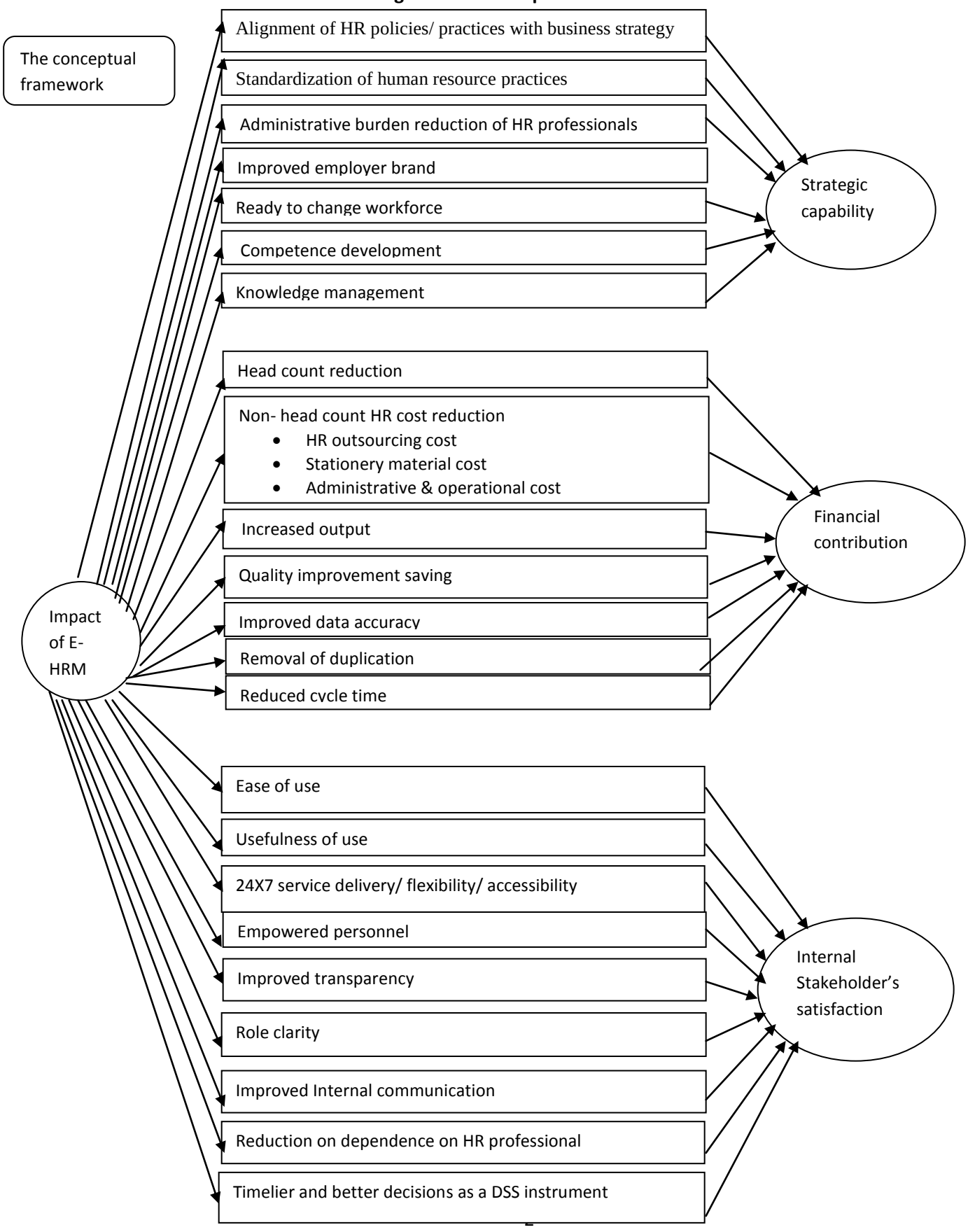
FRAMEWORK, OBJECTIVES AND METHODOLOGY

Since advent of the nineties, organizations have increasingly introduced internet -based applications for human resource function, generally known as digital human resource management, virtual human resource management or electronic human resource management, and at late nineties, academic research of e-HRM, with different constructs and perspective had started globally. E-HRM is a comparatively new area of research, it is challenging, innovative, and has very wide scope of research especially as there is dearth of empirical research in Indian context and exclusive studies that investigate impact of e-HRM in term of strategic contribution, financial contribution, and internal stakeholder's satisfaction. This chapter provides basic construct and conceptual framework of research, sample organizations selected and demographic variables of the respondents.

4.1 Conceptual Framework- The comprehensive analysis of the literature carefully had provided link between constructs and possible outcomes. The conceptual framework had facilitated in finding how combination of association will have effect on end results. During literature review different thoughts progressed as if totally theoretical and independent of being a provisional or tentative outline to investigate and verify assumptions in the mean while the other hand, bond among diverse perceptions were observed and used next to, conjectural developments to verify assumptions by intentionally plotting the attributes. The theoretical framework had been taken as a master plan of research and had provided the direction and laid the path of exploration. This framework is a critical device for the study with several deviations along with perspectives. As per Shields, and Rangarjan, (2013) "framework as the way ideas are arranged to avail research study rationale".

E-HRM literature review has provided the broader framework of research. This framework is blueprint of assumptions, thoughts, and beliefs and provides direction of the path that handles together the ideas of a broader concept. The conceptual framework has identified research variables, and tried to clarify tentative relationships among the variables. Using different statistical tools it has been tested and verified whether it holds good or not.

Figure- 4.1: Conceptual Framework



4.2 Research Problem - Against the background of the above discussion, the research problem is stated as follows-

- What is the present level/form of e-HRM in Indian organizations?

- What are the different e-HRM instruments/tools are being used in Indian organizations?

- To what extent e-HRM has impact on performance of Indian organizations?

These research problems have been converted into comprehensive research objectives.

4.3 Research Objectives

1) To examine present level/form of e-HRM in Indian organizations.

2) To identify the extent to which different e-HRM instruments/tools being used in Indian organizations.

3) To examine the extent to which E-HRM facilitates HR function in achieving strategic capability for Indian organizations.

4) To assess the impact of e-HRM in Indian organizations in terms of financial contribution

5) To assess the impact of e-HRM in Indian organizations in terms of improvement in internal stakeholder's satisfaction.

4.4 Research Hypothesis

Research hypothesis has been classified as per the five major research objectives. For convenience and better understanding these research hypotheses has been mentioned and tested with separate heading.

4.5 Research Methodology

This study is exploratory in character as one of salient purposes of the study is to gain familiarity with the different parameters of e-HRM like relevance of e-HRM, level of e-HRM, e-HRM tools, role of e-HRM in increasing internal stakeholder satisfaction, role of e-HRM as strategic capability builder, role of e-HRM as financial contributor in Indian organizations.

To achieve new insight into it and portray accurately the current situation of Indian organizations in implementation of e-HRM, a descriptive research using primary data was

supposed most suitable to examine the objectives and test the hypothesis. The study has offered and analyzed the compiled data facilitated by statistical method.

4.5.1 Research Instrument - Unstructured interview has been used as research instrument to elicit information regarding different aspects of e-HRM especially information related to e-HRM tools. It had been useful to extract information related to prevalent e-HRM practices and some interesting and unique HR services that their organisation is providing on digital platform. Self service practices, ERP and application of web 2.0 technology were the most prominent area of unstructured interview.

The study has utilized structured closed ended comprehensive questionnaire as the main research instrument for testing of hypothesis and studies related to research objective and research question. All the internal stakeholders like operatives, supervisors, executive/managers of select Indian organizations were the potential respondents. First page of survey dealt with the introduction, purpose of the study, assurance of confidentiality and anonymity. Second page and onwards dealt with profile of respondents and actual survey. Likert's scale with intensity of 1-5 has been applied to compile the preference of respondents related to chosen attributes. Three set of questionnaire has been formulated.

Table- 4.1: Questionnaire Set

Set No	Employee Category	Sections Included	Targeted objectives
Set-1	Operatives **(**Junior)	Section-1 Profile of the Respondents section-2 E-HRM Instruments/ Tools section-3-Stakeholder's Satisfaction	2, 5
Set-2	Supervisors **(**Middle**)**	Section-1 Profile of the Respondents section-2 E-HRM Instruments/ Tools section-3-Stakeholder's Satisfaction Section-4 Form / Level of e-HRM	1, 2, 5
Set-3	Managers (executives)	Section-1 Profile of the Respondents section-2 E-HRM Instruments/ Tools section-3-Stakeholder's Satisfaction Section-4 Form / Level of e-HRM Section-5 Strategic Capability Section-6 Financial Contribution	1, 2, 3, 4, 5

Source –Formulated by scholar

4.5.2 Data Collection Process- The study was accomplished by closed ended structured questionnaire. Some questionnaires were mailed through post, some questionnaires were sent on line by providing a link using Google Docs. Some time researcher has to personally meet the respondent for questionnaire to be filled up. The researcher personally met the respondents and solicited their kind cooperation in filling up the questionnaire. They were approached during their convenient times without causing much dislocation to their routine work. They were also assured that their replies will be utilized barely for scholastic intention and were guaranteed of complete privacy and secrecy on the information sought after. Due to thorough follow up and friendly approach the researcher was able to collect necessary data from the respondents selected for the study.

4.5.3 Sample Unit (Unit of Analysis) - As there are numbers of organizations in India, selection of the participant organizations is based on some criteria.

- Organizations having sound HR process, practices, mechanism have been preferred over organizations lacking in these aspect.

- Organizations delivering HR activities/functions on electronic/digital platform has been preferred.

- There is always constrain of resource and time in research, so the organizations having proximity to Nation Capital Region (NCR), Delhi has been preferred, but most of the organizations have pan India presence.

- Sample organization has been selected from varied manufacturing-mining-services-public-private organizations to have diverse outlook, so that research can depict true picture of Indian organizations as a whole in terms e-HRM.

The research comprises of eight Indian organizations selected as sample organizations and it consist of public and private organizations both from manufacturing /mining sector and services sector in equal numbers. These blue chip organizations are having sound HR practices and market leader in that particular segment. The selections of participant organizations were non-

random sampling. These organizations were selected on judgmental, purposive sampling method.

Table- 4.2: Sample Organizations

Organization	Manufacturing /Mining	Services
Public	1.National Thermal Power Corporation (NTPC) 2.Coal India Ltd. (CIL)	3. State Bank of India (SBI) 4. Life Insurance Corporation of India (LIC)
Private	5. Moser Baer India Ltd 6. Tata Motors	7. ICICI Bank Ltd 8.HCL

Source –Formulated by scholar

4.5.4 Research Sample and Technique - The selections of respondents were non- random sampling. The respondents were selected on convenience sampling techniques. Research sample (respondents) consists of employee of above mentioned organizations irrespective of their functional area. For research objective number first, research samples (target respondents) were supervisors and managers. For research objective number no second and fifth research samples (target respondents) were all the internal stakeholders like operatives, supervisors, managers. For research objective number third and fourth research sample (target respondents) were managers.

Table- 4.3: Target Respondents

Research Objective	Employee Category	Valid Response
1-Level/ form of e-HRM	Supervisors, Managers	283
2 E-HRM Instruments/ Tools	Operatives, Supervisors, Managers	405
3 Strategic capability	Managers	162
4 Financial contribution	Managers	162
5.Stakeholder's satisfaction	Operatives, Supervisors, Managers	405

Source –Formulated by scholar

Categories of target respondents were decided on awareness and exposure to a specific research problem.

4.6 Validity Test- In order to collect reliable data and arrive at valid generalizations from the study, the drafted questionnaire was examined for validity test in the form of face validity and content validity. A test was conducted to evaluate how well the questionnaire has been understood. As per feedback changes were made by deleting some questions, adding new questions, providing alternative wordings of questions and determining some other response could be provided. The test was conducted with assistance of four experts two drawn from academics and two from corporate world. The experts thoroughly scrutinized the various item according to the definition generated against the of level of e-HRM, e-HRM tools, role of e-HRM in increasing internal stakeholder's satisfaction, role of e-HRM as strategic capability builder, role of e-HRM as financial contributor in Indian organizations. The experts discussed the validity of each item in gathering the required information needed for the study. Their feedback was obtained on each of the items. Based on the feedback, the questionnaire was modified, deleting some questions, rewording certain and adding some more items at appropriate places particularly on the advice of the professional experts i.e., academicians, line managers, HR practitioners.

4.7 Reliability Test-A pilot study was conducted after taking ultimate decision on number of items in the research instrument. The pilot study has rationale to examine the constructed research instrument's reliability and if required modify and edit the research instrument.

The pilot study with 80 response was conducted and found Cronbach's alpha value is more than 0.7, hence it was interpreted that research instrument was reliable.

The pilot study discovered that the instrument has ample motivational value to compile authentic reaction from surveyed employee of select Indian organizations. The dialogue with the respondent employees also revealed that the measures implemented in administering the questionnaire are practical. On the whole the pilot study gave the confidence that, the questionnaire applied in the research would extract the needed data and information from the respondents.

4.8 Sample Size and Response-

Table-4.4: Breakup of Survey

Organization Name	No. of Employees (Tentative)	No. of Respondents Contacted	No. of Responses Received	No. of Valid Responses
CIL	357,926	143	54	50
HCL	88,000	146	55	51
ICICI	60,000	145	53	50
LIC	119,767	150	56	51
MOSER BAER	8,000	145	57	51
NTPC	25,484	147	58	50
SBI	228,296	146	60	52
TATA MOTORS	62,716	142	57	50
Total	9,50,189	1164	450	405

Source –Formulated by scholar

With 95% confidence level with a total population of 950,189 sample size needed is 384 **(**margin of error- 5%).

Guessing 33 % (one out every three) as good response rate, total number of 1164 questionnaire were sent for survey (see table-4.4). Out of 180 questionnaire (surveys) send online, 32 respondents filled the questionnaire and submitted i.e. response rate of 17.8%. Out of 984 questionnaire (surveys) provided to respondents in hard copy format 418 responses were collected i.e. response rate of 42.5%.total 450 responses out of a total number of surveys of 1164 i.e. overall response rate of 38.7%**.** Out of 450 responses 405 responses were found valid. Response having discrepancy and incomplete, not fit for further processing were discarded.

4.9 Demographic Structure of Respondents- Table 4.8 elicits the demographic distribution of respondents entered for final data analysis and interpretation. Out of 405 valid responses, for compatibility and convenience in data analysis and hypothesis testing, 50 responses from each organization (Total-50*8=400) were entered for final statistical analysis and interpretation.

Table-4.5: Distribution of Respondents on the Basis of Demographic Variables.

Demographic Variables	**Parameters**	**No of Respondents**	**% of Respondents**
Organization Name	CIL	50	12.5
	HCL TECHNOLOGIES	50	12.5
	ICICI BANK	50	12.5
	LIC	50	12.5
	MOSER BAER	50	12.5
	NTPC	50	12.5
	SBI	50	12.5
	TATA MOTORS	50	12.5
Qualification	10th / ITI/ (10)	12	3.0
	Intermediate/ Diploma	42	10.5
	Graduate/Degree	176	44.0
	Postgraduate	170	42.5
Position:	Operative(Junior)	120	30.0
	Supervisor(Middle)	120	30.0
	Manager (Executive)	160	40.0
Functional area	Marketing	57	14.2
	Human resource	69	17.2
	Information technology	51	12.8
	Finance	49	12.2
	Production/ Operations	131	32.8
	Others	43	10.8
Trade union official	Yes	15	3.8

Demographic Variables	Parameters	No of Respondents	% of Respondents
	No	385	96.2
Experience	1-5	117	29.2
	5-10	61	15.2
	10-15	81	20.2
	15-20	45	11.2
	20 years &	96	24.0
Gender	Male	334	83.5
	Female	66	16.5
Age	20-30	133	33.2
	30-40	139	34.8
	40-50	63	15.8
	50-60	65	16.2
	60 years & above	0	0

Source –Formulated by scholar

Data shows 44% (highest) of respondents are graduates, 40% (highest) of respondents were managers, only 3.8% respondents were trade union official, experience wise 20.2% (highest) of respondents were having 10-15 years of work experience, 16.5% respondents were female, and 34.8% (highest) of respondents were in age group of 30-40.

CHAPTER: 5

DATA ANALYSIS AND HYPOTHESIS TESTING

This chapter of thesis elaborates, discusses moreover investigates research hypothesis by statistical analysis of surveyed data. The discussion on these finding are based towards achieving research objectives.

5.1 Hypothesis Formulation (Level/ Form of e-HRM)- To analyze research objective no. 1, **"**To examine present level/ form of e-HRM in Indian organizations", with main hypothesis three more hypothesis has been formulated so that analysis could be done through different perspective and the study could provide clear picture of level of e-HRM in Indian context.

Research Hypothesis (H0- Null hypothesis, H1- Alternate hypothesis)

A1) H0- There is no significant difference in mean value of present level of e-HRM and test mean value.

A1) H1- There is significant difference in mean value of present level of e-HRM and test mean value.

A2) H0- There is no significant difference in mean value of level of e-HRM between private and public organizations.

A2) H1- There is significant difference in mean value of level of e-HRM between private and public organizations.

A3) H0- There is no significant difference in mean value of level of e-HRM between manufacturing/mining and service organizations.

A3) H1- There is significant difference in mean value of level of e-HRM between manufacturing/mining and service organizations.

A4) H0 There is no significant difference in mean value of level of e-HRM among select Indian organizations.

A4) H1 There is significant difference in mean value of level of e-HRM among select Indian organizations.

5.1.1 Data Analysis and Interpretation- Factor analysis is a method used to express variability among observed, interrelated variables in terms of a potentially lesser number of unobserved variables called factors, so it has been used as an instrument to classify the questionnaire in different groups. Exploratory factor analysis has been used as tool to categories the variables. One sample t-test had been used to test the hypothesis A1. Paired sample t-test has been used to test hypothesis A2 and A3. One way ANOVA has been used as a statistical instrument to test hypothesis A4.

TABLE-5.1: Factor Analysis of e-HRM Level Attributes

Attributes	**Transformational**	**Relational**	**Operational**
Administration (supports)			.948
Time and labour management (supports)			.941
Face-to-face HR services (IT replacing)			.483
Publishing of HR information(supports)			.565
Web presence of HR function			.572
Transactional HR function (supports)			.936
Human resource planning (supports)		.515	
Recruitment (supports)		.852	
Selection (supports)		.758	
Training & development (supports)		.656	
Performance appraisal (supports)		.549	
Reward & compensation (supports)		.531	
Pen & paper (IT replacing)		.729	
Automation of HR transactions(supports)		.786	

Attributes	Transformational	Relational	Operational
Traditional HR function (performs)		.774	
Job design(supports)	.642		
Integrated set of web based tools	.803		
Mutation of HR transaction(supports)	.660		
Electronically (services offered)	.716		
Strategic HR task (supports)	.785		
Centres of expertise	.771		
Eigen values	10.154	2.604	1.424
Percentage of variance	48.354	12.401	6.780
Cumulative percent	48.354	60.755	67.535
Kaiser-Meyer-Olkin Measure of Sampling Adequacy .896, Bartlett's Test of Sphericity- 6.172, Degree of freedom-210, Significance-0.00, Cranach's Alpha of 0.946 shows questionnaire are reliable.			

Source – Data analysis by scholar

Sampling Adequacy Measure of Kaiser-Meyer- Olkin has a value of .896, reveals the fact that the sample is large enough to conduct factor analysis as any value greater than 0.6 is good for conducting research in social science. Bartlett's Sphericity Test examines relatedness of variables and if the matrix is diagonal matrix then null hypothesis is accepted and indicates there is no relation among variable. In this study significance level is 0.00 showing null hypothesis has been rejected, indicating variables are correlated. (Null hypothesis of Bartlett's of Sphericity Test assumes that variable do not have significant relationship.)

Exploratory factor analysis has been executed with Varimax rotation and Principal Component Analysis (PCA). Table 5.1 depicts, matrix of rotated factors encompassing all 21 variables. All extracted factors have more than 1 Eigen value, the table shows the variance percentage along with cumulative percentage of variance. Three factors have been extracted out of twenty one variables. The Eigen values of these three factors are 10.154, 2.604, and 1.424. In total 67.535% of variance has been retained by three factors. This indicates more than half the information has been retained and only 32 .465 per cent of information is lost. The extracted factors as follows.

Operational- This explains 6.780% of the total variance and retaining Eigen value of 1.424 and loading range from 0.565 to 0.948. The attributes covered here are Administration (supports), Time and labour management (supports), Publishing of HR information (supports), Web presence of HR function, and Transactional HR function (supports). These are basic attributes of operational e-HRM.

Relational-This factor is concerned with the dealings and linkages of the different human resource management stakeholders. This factor has total variance of 12.401 and Eigen value of 2.604 and loading range from 0.515 to 0.852. The attributes covered are, Human resource planning (supports), Recruitment (supports), Selection (supports), Training and development (supports), Performance appraisal (supports), Reward and compensation (supports), Pen & paper (IT replacing), Automation of HR transactions(supports) and Traditional HR function (performs).

Transformational- The attributes covered are Job design (supports), integrated set of web based tools, Mutation of HR transactions, Electronically (services offered), Strategic HR task (supports) and Centres of expertise. These factors have total variance of 48.354and Eigen value of 10.154 and loading range from 0.660 to 0.803. Face-to-face HR services (IT replacing) as an element does not fit in any of the factors, so has been omitted.

5.1.2 Hypothesis Testing

5.1.2.1 E-HRM Level- To test the hypothesis A1 (There is no significant difference in mean value of present level of e-HRM and test value), one sample t -test has been used applying hypothesized test value of 3.5, assuming that a mean value of 3.5 will support the null hypothesis The main goal is to have a comparative study of sample mean with assumed mean for probability estimation, and to assess whether the difference is real or by chance. Likert scale in the range of 1-5 has been used for response measurement.

TABLE- 5.2: One-Sample t-Test of e-HRM Level Attributes

Case		Attributes	Mean	t	Sig. (2-tailed)
Operational Attributes	Case-1	Administration (supports)	4.3071	14.824	.000*
		Time and labour management (supports)	4.2964	14.665	.000*
		Publishing of HR information(supports)	4.0143	8.881	.000*
		Web presence of HR function	3.9000	7.657	.000*
		Transactional HR function (supports)	4.2929	14.613	.000*
Relational Attributes	Case-2	Human resource planning (supports)	3.7036	3.093	.002*
		Recruitment (supports)	3.7214	3.584	.000*
		Selection (supports)	3.8000	4.851	.000*
		Training & development (supports)	4.0036	8.487	.000*
		Performance appraisal (supports)	4.0179	8.235	.000*
		Reward & compensation (supports)	3.7321	3.514	.001*
		Pen and paper (IT replacing)	3.9857	8.143	.000*
		Automation of HR transactions(supports)	3.6036	1.842	.067
		Traditional HR function (performs)	3.5821	1.407	.160
Transformational attributes	Case-3	Job design(supports)	3.5393	.564	.573
		Integrated set of web based tools	3.7607	3.970	.000*
		Mutation of HR transaction(supports)	3.7429	4.230	.000*
		Electronically (services offered)	3.7750	4.265	.000*
		Strategic HR task (supports)	3.7821	4.601	.000*
		Centres of expertise	3.8107	5.163	.000*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F. 279, Sig 5%)

Case-1 All the attributes of operational level has low significance values of 0.00, indicates that there is a significant difference between the test value and the observed mean value so null

hypothesis is rejected. Mean value of all the e-HRM level attributes is above the test value hence it can be concluded that e-HRM is operational level in Indian organizations.

Case-2 Most of the attributes of relational level is having significance value less than 0.05, indicates there is significant difference between the test value and the observed mean value, so null hypothesis is rejected. For attributes Automation of HR transactions (supports) and Traditional HR function (performs), significance level is above 0.05 thus null hypothesis is accepted. So null hypothesis is partially rejected and can be concluded that e-HRM is not at relational level for all the attributes.

Case-3 Most of the attributes of transformational level is having significance value less than 0.05, hence null hypothesis is rejected and it can be inferred that there is significant difference between the test value and the mean value is not by chance. So null hypothesis is rejected but attribute Job design (supports) has a significance value more than 0.05, accepts the null hypothesis. Hence hypothesis (H0) is partially rejected and can be concluded that e-HRM is not at transformational level for all the attributes.

Overall null hypothesis A1 is partially rejected and can be concluded that e-HRM is not above the test mean level for all the attributes.

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5.1.2.2 E-HRM Level (Private vis-a-vis Public) - To test the hypothesis A2 (There is no significant difference in mean value of level of e-HRM between private and public organizations) paired sample t- test has been used as a statistical tool.

TABLE – 5.3: Paired Sample t-Test of e-HRM Level Attributes (Private vis-a-vis Public)

Case	Pair	attributes	Mean Pvt.	Mean public	Mean Diff.	t	Sign
Operational attributes **Case-4**	1	Administration (supports)	4.3786	4.2357	.1429	1.541	.125
	2	Time & labour management (supports)	4.3786	4.2143	.1643	1.794	.075
	3	Publishing of HR information(supports)	4.1714	3.8571	.3143	2.996	.003*
	4	Web presence of HR function	4.0143	3.7857	.2286	2.426	.017*
	5	Transactional HR function (supports)	4.3786	4.2071	.1715	1.868	.064
Relational attributes **Case-5**	6	Human resource planning (supports)	3.9286	3.4786	.4500	3.495	.001*
	7	Recruitment (supports)	3.7643	3.6786	.0857	.749	.455
	8	Selection (supports)	3.9357	3.6643	.2714	2.256	.026*
	9	Training & development (supports)	4.1500	3.8571	.2929	2.491	.014*
	10	Performance appraisal (supports)	4.1143	3.9214	.1929	1.570	.119
	11	Reward & compensation (supports)	3.8429	3.7143	.1286	.973	.332
	12	Pen and paper (IT replacing)	4.0929	3.9643	.1286	1.466	.145
	13	Automation of HR transactions	3.6286	3.4500	.1786	1.864	.064
	14	Traditional HR function (performs)	3.7357	3.4286	.3071	2.779	.006*
Transformational attributes **Case-6**	15	Job design (supports)	3.8500	3.2286	.6214	5.100	.000*
	16	Integrated set of web based tools	4.0429	3.4786	.5643	4.787	.000*
	17	Mutation of HR transaction(supports)	3.9500	3.5357	.4143	3.862	.000*
	18	Electronically (services offered)	4.1286	3.4214	.7072	6.491	.000*
	19	Strategic HR task (supports)	3.9929	3.5714	.4215	3.617	.000*
	20	Centres of expertise	4.0000	3.6214	.3786	3.232	.002*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (D.F. 139, Sig 5%)

Case-4 Null hypothesis-A2 is partially rejected as significance level of the attribute Publishing of HR information (supports), Web presence of HR function is below 0.05. For all other three attributes null hypothesis is accepted as significance level is above 0.05. So it can be concluded that difference in mean value of level of e-HRM between public and private organization is not zero for all the attributes of operational e-HRM.

Case-5. Null hypothesis- A2 is partially rejected as significance level of the attribute Human resource planning (supports), Selection(supports),Training & development (supports), and Traditional HR function(performs) is below 0.05. For all other five attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the difference in mean value of level of e-HRM between public and private organization is not zero for all the attributes of relational e-HRM

Case-6 Null hypothesis- A2 is rejected as significance level of the all the attribute, is below 0.05. So it can be concluded that there is significant difference in mean value of level of e-HRM between public and private organization for all the attributes of transformational e-HRM. Overall null hypothesis A2 is partially rejected.

5.1.2.3 E-HRM Level (Manufacturing / Mining vis-à-vis Services) - To test the hypothesis A3 (There is no difference in mean value of level of e-HRM between manufacturing/ mining and services organization) paired sample t- test has been used as a statistical tool.

TABLE – 5.4: Paired Sample t-Test of e-HRM Level Attributes (Manufacturing/Mining vis-a-vis Services)

Case	Pair	Attributes	Mean Mfg/ Min	Mean service	Mean Diff.	t	Sign
Operational attributes Case-7	1	Administration (supports)	4.2357	4.3786	-.1428	-1.580	.116
	2	Time & labour management (supports)	4.2143	4.3786	-.1642	-1.839	.068
	3	Publishing of HR information(supports)	3.9071	4.1214	-.2142	-1.982	.050
	4	Web presence of HR function	3.9214	3.8786	.0428	.434	.665
	5	Transactional HR function (supports)	4.2071	4.3786	-.1714	-1.915	.057
Relational attributes Case-8	6	Human resource planning (supports)	3.6000	3.8071	-.2071	-1.465	.145
	7	Recruitment (supports)	3.5000	3.9429	-.4428	-4.034	.000*
	8	Selection (supports)	3.5571	4.0429	-.4857	-4.071	.000*
	9	Training & development (supports)	3.7714	4.2357	-.4642	-4.123	.000*
	10	Performance appraisal (supports)	3.8500	4.1857	-.3357	-2.773	.006*
	11	Reward & compensation (supports)	3.4214	4.0429	-.6214	-4.588	.000*
	12	Pen & paper (IT replacing)	3.8786	4.0929	-.2142	-1.964	.051
	13	Automation of HR transactions (supports)	3.6786	3.5286	.1500	1.431	.155
	14	Traditional HR function (performs)	3.5643	3.6000	-.0357	-.317	.752
Transformational attributes Case-9	15	Job design (supports)	3.4500	3.6286	-.1785	-1.362	.175
	16	Integrated set of web based tools	3.7143	3.8071	-.0928	-.729	.467
	17	Mutation of HR transaction(supports)	3.6500	3.8357	-.1857	-1.603	.111
	18	Electronically (services offered)	3.6071	3.9429	-.3357	-2.865	.005*
	19	Strategic HR task (supports)	3.5500	4.0143	-.4642	-3.798	.000*
	20	Centres of expertise	3.6357	3.9857	-.3500	-3.101	.002*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (D.F 139, Sig 5%)

Case-7 Null hypothesis-A3 is accepted as significance level of all the attributes is equal or above .05. So it can be said there is no significant difference in mean value of level of e-HRM between manufacturing/mining and service organization for operational e-HRM.

Case-8 Null hypothesis-A3 is partially rejected as significance level of attributes Recruitment (supports), Selection (supports), Training (supports), Performance appraisal (supports), Reward & Compensation (supports) is below 0.05. For all other four attributes null hypothesis is accepted as significance level is above 0.05. So it can be concluded that difference in mean value of level of e-HRM between manufacturing/mining and services organization is not zero for all the attributes of relational e-HRM.

Case-9 Null hypothesis-A3 is partially rejected as significance level of three attributes, Electronically (services offered), Strategic HR task (supports) and Centre of expertise is below 0.05. For other three attributes null hypothesis is accepted as significance level is above 0.05, so it can be concluded that difference in mean value of level of e-HRM between manufacturing/mining and services organization is not zero for all the attributes of transformational e-HRM. Overall null hypothesis A3 is partially rejected.

5.1.2.4 E-HRM Level (Organization vis-a-vis Organization)-To examine the null hypothesis (H0) A4 (There is no difference in mean values of level of e-HRM among select Indian organizations) one way ANOVA has been used as a statistical tool.

Table-5.5: One way ANOVA e-HRM Level Attributes (Organization vis-à-vis s Organization)

Attribute	Mean (Organization wise)								Mean	F	Sign.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	T M			
Administration	3.57	3.94	4.51	4.60	4.88	4.31	4.46	4.17	4.30	8.419	.00*
Time & labour	3.49	3.95	4.52	4.60	4.89	4.31	4.45	4.17	4.29	9.662	.00*
Publishing	3.48	4.11	4.29	4.23	4.31	3.86	3.86	3.97	4.01	3.083	.004*

Attribute	Mean (Organization wise)								Mean	F	Sign.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	T M			
Web presence	3.43	3.57	4.11	4.06	4.40	3.89	3.77	3.97	3.90	4.823	.00*
Transactional	3.46	3.94	4.51	4.60	4.89	4.31	4.46	4.17	4.29	10.12	.00*
HRP	2.51	3.91	3.74	3.97	4.46	3.82	3.60	3.60	3.70	11.03	.00*
Recruitment	3.11	3.57	4.09	4.26	3.91	3.48	3.86	3.48	3.72	5.035	.00*
Selection	3.00	4.00	3.97	4.37	3.94	3.45	3.83	3.83	3.80	6.205	.00*
Training	2.83	4.14	4.17	4.46	4.37	3.97	4.17	3.91	4.00	11.60	.00*
Per. Appraisal	2.82	4.20	4.06	4.40	4.31	4.37	4.09	3.89	4.02	10.17	.00*
Reward	2.66	4.00	4.03	4.17	3.97	3.68	3.97	3.37	3.73	8.540	.00*
Pen and paper	3.20	3.57	4.31	4.26	4.31	3.83	4.23	4.17	3.99	6.895	.00*
Automation	3.11	3.58	3.14	3.40	4.17	3.80	4.00	3.63	3.60	6.512	.00*
Traditional	3.12	3.57	3.74	3.34	4.09	3.51	3.74	3.54	3.58	3.255	.002*
Job design	2.17	3.49	4.11	3.86	3.89	3.83	3.06	3.91	3.54	14.07	.00*
Integrated set	2.31	3.83	4.03	3.86	4.14	4.23	3.51	4.17	3.76	15.71	.00*
Mutation	2.89	3.91	3.89	3.97	4.06	3.71	3.57	3.9	3.74	6.153	.00*
Electronically	2.60	3.94	4.54	4.00	4.40	3.80	3.29	3.63	3.77	15.95	.00*
Strategic	2.54	4.03	4.17	3.86	4.03	3.89	4.00	3.74	3.78	11.17	.00*
Expertise	2.63	3.91	4.20	3.88	4.26	4.03	3.94	3.63	3.81	11.63	.00*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (D.F 7/272, Sig 5%)

Short forms used in table: Administration -Administration (supports), Time & labour- Time & labour management (supports), Publishing-Publishing of HR information (supports), Web presence- Web presence of HR function, Transactional-Transactional HR function (supports), HRP- Human resource planning (supports), Recruitment-Recruitment (supports), Selection - Selection (supports), Training-Training & development (supports), Per. Appraisal-Performance appraisal (supports), Reward-Reward & compensation (supports), Pen and paper-Pen and paper(supports), Automation-Automation of HR transactions (supports),Traditional-Traditional HR function (performs), Job design-Job design (supports), Integrated set-Integrated set of web based tools, Mutation-Mutation of HR transaction , Electronically-Electronically (services offered), Strategic-Strategic HR task (supports) , Expertise-Centres of expertise.

Table-5.5 shows computed significance value all the e-HRM level attributes is below the assumed significance level, so null hypothesis A4 is rejected and it can be said that level of e-HRM is different among select Indian organizations

5.2 Hypothesis Formulation (e-HRM Instruments/ Tools)- To analyze research objective no.2 **"**To identify the extent to which different e-HRM Instruments/ Tools being used in Indian organizations", with main hypothesis three more hypothesis has been formulated so that analysis could be done through different perspective and the study could provide clear picture of different e-HRM instruments/ tools being used in Indian organizations.

Research Hypothesis – (H0- Null hypothesis, **H1- Alternate hypothesis**)

B1) H0- There is no significant difference in present mean value of application of different e-HRM tools and test mean value.

B1) H1- There is significant difference in present mean value of application of different e-HRM tools and test mean value.

B2) H0- There is no significant difference in present mean value of application of e-HRM tools between private and public organizations.

B2) H1- There is significant difference in present mean value of application of e-HRM tools between private and public organizations.

B3) H0- There is no significant difference in present mean value of application of e-HRM tools between manufacturing/mining and services organizations.

B3) H1- There is significant difference in present mean value of application of e-HRM tools between manufacturing/mining and services organizations.

B4) H0-- There is no significant difference in present mean value of application of e-HRM tools among select Indian organizations

B4) H1-- There is significant difference in present mean value of application of e-HRM tools among select Indian organization

5.2.1 Data analysis and interpretation - One sample t-test had been used to test the hypothesis B1, paired sample t- Test has been used to test the hypothesis B2 and B3**.** ANOVA has been used to test the hypothesis B4. The value of Cronbach's Alpha is 0.812 confirms questionnaire is reliable.

5.2.2 HYPOTHESIS TESTING

5.2.2.1 E-HRM Instruments/ Tools - To test the hypothesis B1 (There is no significant difference in present mean value of application of different e-HRM tools and test value), one sample t -test has been used applying hypothesized test value of 3.5, assuming that a mean value of 3.5 will support the null hypothesis B1.

Table-5.6: One-Sample t-Test of e-HRM Instruments/ Tools

Attributes	Test Value = 3.5 Degree of freedom = 399		
	Mean	t	Sig. (2-tailed)
Interactive Voice Response (IVR)	2.427	-18.975	.000*
HR Intranet Application (HRIA)	4.147	12.929	.000*
Self Service Application (SSA)	3.875	6.222	.000*
HR Extranet Application (HREA)	3.060	-6.284	.000*
HR Portal Application (HRPA)	3.602	1.555	.121
HR Functional Application (HRFA)	2.682	-17.009	.000*
Integrated HRM Suite Application (ISA)	3.670	3.079	.002*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (DF 399, Sig 5%)

In case of Interactive Voice Response (IVR) low significance values of 0.00 indicates that there is a significant difference between the test value and the observed mean value, so null hypothesis is rejected. Observed mean value (2.427) is less than the test value (3.5) hence it can be concluded that Interactive Voice Response (IVR) as an instrument not much utilized in Indian organizations.

In case of HR Intranet Application (HRIA) low significance values of 0.00 indicates that there is a significant difference between the test value and the observed mean value, and so null hypothesis is rejected. Observed mean value (4.147) is more than the table value (3.5) hence it can be concluded that HR Intranet Application (HRIA) as an instrument extensively utilized in Indian organizations.

In case of Self Service Application (SSA), low significance values of 0.00 indicate that there is a significant difference between the test value and observed mean value, so the null hypothesis is rejected. Observed mean value (3.875) is more than the test value (3.5) hence it can be concluded that Self Service Application (SSA) as an instrument extensively utilized in Indian organizations.

In case of HR Extranet Application (HREA) low significance values of 0.00 indicates that there is a significant difference between the test value and the observed mean value, so null hypothesis is rejected. Observed mean value (3.060) is less than the test value (3.5) hence it can be concluded that HR Extranet Application (HREA) as an instrument not much utilized in Indian organizations.

In case of HR Portal Application (HRPA) significance values of 0.121 indicates that there is no significant difference between the test value and observed mean value, so null hypothesis is accepted. Based on this result it can be concluded that application of HR Portal Application (HRPA) as an instrument is moderately utilized in Indian organizations.

In case of HR Functional Application (HRFA) low significance values of 0.00 indicates that there is a significant difference between the test value and the observed mean value, so null hypothesis is rejected. Observed mean value (2.682) is less than the test value (3.5), hence it can be concluded that as HR Functional Application (HRFA) an instrument not much utilized in Indian organizations.

In case of Integrated HRM Suite Application (ISA) low significance values of 0.02 indicates that there is a significant difference between the test value and the observed mean value, so null hypothesis is rejected. Observed mean value (3.670) is more than the test value (3.5), hence it can be concluded that Integrated HRM Suite Application (ISA) as an instrument is extensively utilized in Indian organizations.

Overall null hypothesis B1 is partially rejected and can be concluded that only HR Intranet Application (HRIA), Self Service Application (SSA), Integrated HRM Suite Application (ISA) is extensively utilized as e-HRM tool/instrument in select Indian organizations. HR Portal Application (HRPA) as an instrument is moderately utilized. Interactive Voice Response (IVR), HR Functional Application (HRFA) as an instrument not much utilized in select Indian organizations.

5.2.2.2 E-HRM Instruments/ Tools (Public vis-a-vis Private) - To test the hypothesis B2 (There is no significant difference in present mean value of application of e-HRM tools between private and public organizations), paired sample t- test has been used as a statistical tool.

TABLE-5.7: Paired Sample t-Test of e-HRM Instruments/ Tools (Private vis-à-vis Public)

Pair	Tool	Mean Private	Mean Public	Mean Difference	t	Sign
1	Interactive Voice Response (IVR)	2.77	2.085	.685	7.579	.000*
2	HR Intranet Application (HRIA)	4.44	3.855	.585	6.198	.0008*
3	Self Service Application (SSA)	4.215	3.535	.680	6.356	.000*
4	HR Extranet Application (HREA)	3.555	2.565	.99	8.437	.000*
5	HR Portal Application (HRPA)	4.00	3.205	.795	6.699	.000*
6	HR Functional Application (HRFA)	2.685	2.68	.005	.051	.959
7	Integrated HRM Suite Application (ISA)	4.065	3.275	.79	7.969	.0008*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (DF 199, sig 5%)

Table-5.7 shows null hypothesis-B2, for Interactive Voice Response (IVR), HR Intranet Application (HRIA), Self Service Application (SSA), HR Functional Application (HRFA), HR Portal Application (HRPA), Integrated HRM Suite Application (ISA) is rejected as the significance level is much below the assumed significance level of 0.05, So application of these tools are not same for public and private organizations. Null hypothesis-B for e-HRM tool, HR Functional Application (HRFA) is accepted as the significance level is above the assumed significance level of F at 0.05; hence application of HRFA is same for private and public organizations. Overall null hypothesis B2 is partially rejected.

5.2.2.3 E-HRM Instruments/ Tools (Manufacturing/Mining vis-a-vis Services) -To test the hypothesis B3 (There is no significant difference in present mean value of application of e-HRM tools between manufacturing/mining and services organizations) paired sample t-test has been used as a statistical tool.

TABLE- 5.8: Paired Sample t-Test of e-HRM Instruments/ Tools (Manufacturing/Mining vis-à-vis Service)

Pair	Tool	Mean Mfg / Mining	Mean Service	Mean Difference	t	Sign
1	Interactive Voice Response (IVR)	2.37	2.485	-.115	-1.167	.245
2	HR Intranet Application (HRIA)	4.005	4.29	-.285	-2.847	.005*
3	Self Service Application (SSA)	3.84	3.91	-.07	-.584	.560
4	HR Extranet Application (HREA)	3.215	2.905	.31	2.115	.036*
5	HR Portal Application (HRPA)	3.515	3.69	-.175	-1.356	.177
6	HR Functional Application (HRFA)	2.51	2.855	-.345	-3.632	.000*
7	Integrated HRM Suite Application (ISA)	3.51	3.83	-.32	-2.915	.004*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (DF 199, Sig. 5%)

For HR Intranet Application (HRIA), HR Extranet Application (HREA), HR Functional Application (HRFA), Integrated HRM Suite Application (ISA) null hypothesis is rejected as the significance level is below the assumed significance level of 0.05.So, application of these tools are not same for manufacturing/mining and services sector. Null hypothesis-B3 for e-HRM tools Interactive Voice Response (IVR), Self Service Application (SSA), HR Portal Application (HRPA) is accepted as the significance level is above the assumed significance level 0.05, so application of these tools are not significantly different for manufacturing/mining and services sector. Overall it can be concluded that null hypothesis B3 is partially rejected for e-HRM tools taking manufacturing vis-a-vis service as paired sample test of comparison.

5.2.2.4 E-HRM Instruments/ Tools (Organization vis-a-vis Organization)-To test the hypothesis B4 (There is no significant difference in present mean values of application of e-HRM tools among select Indian organizations) one way ANOVA has been used as a statistical tool.

TABLE- 5.9: One way ANOVA of e-HRM Instruments/ Tools (Organization vis-a-vis s Organization)

Tools	Mean (Organization Wise)								Mean	F	Sig.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	TM			
IVR	1.4	2.1	3.3	2.48	3.04	2.4	2.06	2.64	2.43	18.02	.00*
HRIA	2.5	4.34	4.1	4.46	4.7	4.2	4.26	4.62	4.15	41.23	.00*
SSA	2.08	3.96	4.02	3.42	4.44	4.4	4.24	4.44	3.87	35.57	.00*
HREA	2	3.56	3.06	2.06	3.82	3.26	2.94	3.78	3.06	16.27	.00*
HRPA	2.02	3.86	3.92	2.94	4.22	3.82	4.04	4	3.60	21.80	.00*
HRFA	2.16	2.84	2.62	2.8	2.6	2.6	3.16	2.68	2.68	4.57	.00*
ISA	2.2	3.88	3.98	3.94	4.14	3.44	3.52	4.26	3.67	25.18	.00*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F. 7/392, sig 5%)

Table-5.9 shows significance level all e-HRM tools; Interactive Voice Response (IVR), HR Intranet Application (HRIA), Self Service Application (SSA), HR Extranet Application (HREA), HR Portal Application (HRPA), HR Functional Application (HRFA), and Integrated HRM Suite Application (ISA) is below the assumed significance level of F at 0.05so null hypothesis B4 is rejected and it can be concluded that level of all the e-HRM tools are different among Indian organizations.

5.3 Hypothesis Formulation (Strategic Capability) - To analyze research objective no. 3 "To examine the extent to which e-HRM facilitates HR function in achieving strategic capability for Indian organizations", with the main hypothesis five more hypothesis has been formulated so that analysis could be done through different perspective and the study could provide clear picture of strategic capability of e-HRM in Indian context.

Research Hypothesis (H0- Null hypothesis, H1- Alternate hypothesis)

C1) H0 - There is no significant difference in present mean value of strategic attributes of e-HRM and test value.

C1) H1 - There is significant difference in present mean value of strategic attributes of e-HRM and test value.

C2) H0 There is no significant difference in mean value of strategic attributes of e-HRM between private and public organizations.

C2) H1 There is significant difference in mean value of strategic attributes of e-HRM between private and public organizations.

C3) H0 There is no significant difference in mean value of strategic attributes of e-HRM between manufacturing/mining and service organizations.

C3) H1 There is significant difference in mean value of strategic attributes of e-HRM between manufacturing/mining and service organizations.

C4) H0 There is no significant difference in mean value of strategic attributes among different select Indian organizations.

C4) H1 There is significant difference in mean value of strategic attributes among select Indian organizations.

C5) H0 There exist no association between strategic attributes and strategic capability.

C5) H1 There exist association between strategic attributes and strategic capability

C6) H0 Strategic attributes of e-HRM have no significant impact on strategic capability of Indian organizations.

C6) H1 Strategic attributes of e-HRM have significant impact on strategic capability of Indian organizations.

5.3.1 Data analysis and interpretation. Beside descriptive statistics one sample t-test had been used to test the hypothesis C1. Paired Sample t-Test has been used to test the hypothesis C2 and C3**.** ANOVA has been used to test the hypothesis C4. Correlations analysis has been used to test

the hypothesis C5. Regression analysis has been used to test the hypothesis C6. A Cronbach's Alpha of 0 .947shows questionnaires is reliable.

5.3.2 HYPOTHESIS TESTING

5.3.2.1 Strategic Attributes Value- To test the hypothesis C1 (There is no significant difference in present mean value of strategic attributes of e-HRM and test value.), one sample t- test has been used applying a hypothesized test value of 3.5, assuming that a mean value of 3.5 will offer support to the null hypothesis C1.

TABLE- 5.10: One-Sample t-Test of Strategic Attributes

Attributes	**Test Value = 3.5 Degree of freedom =159**		
	Mean	**t**	**Sig. (2-tailed)**
Standardization of HR practices	3.6375	1.639	.103
Administrative burden reduction	3.8562	4.311	.000*
Employer brand (improves)	3.7250	2.803	.006*
Ready to change workforce	3.6188	1.489	.138
Competence of employee (increases)	3.6812	2.252	.026*
Knowledge management (supports)	3.7125	2.690	.008*
Alignment of HR practices with business strategy	3.8875	4.741	.000*
Strategic capability (increases)	4.0250	7.523	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (DF 159, sig 5%)

As per Table 5.10 for the strategic attributes, Administrative burden reduction, Employer brand (improves), Competence of employee (increases), Knowledge management(supports), Alignment of HR practices with business strategy, Strategic capability (increases) significance level is below assumed significance level of 0.05 indicates that there is a significant difference

between the test value and the observed mean value hence null hypothesis is rejected . Significance level of strategic attribute, Standardization of HR practices and Ready to change workforce is above the significance level of 0.05, hence null hypothesis is accepted. Over all null hypothesis C1 is partially rejected.

5.3.2.2 Strategic Capability (Public vis-a-vis Private) - To test the hypothesis C2 (There is no significant difference in mean value of strategic attributes of e-HRM between private and public organizations), paired sample t- test has been used as a statistical tool.

TABLE-5.11: Paired Sample t-Test of Strategic Attributes (Private vis-a-vis Public)

Pair	Attributes	Mean Private	Mean Public	Mean Difference	t	Sign.
1	Standardization of HR practices	3.912	3.387	.5250	2.952	.004*
2	Administrative burden reduction	3.925	3.812	.1125	.725	.470
3	Employer brand (improves)	3.750	3.687	.0625	.419	.676
4	Ready to change workforce	3.637	3.600	.0375	.253	.801
5	Competence of employee (increases)	3.737	3.637	.1000	.611	.543
6	Knowledge management (supports)	3.712	3.700	.0125	.078	.938
7	Alignment of HR practices with business strategy	4.175	3.600	.5750	3.956	.000*
8	Strategic capability (increases)	4.287	3.762	.5250	3.749	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (DF. 79, sig 5%)

Table-5.11 shows null hypothesis-C2 for strategic attributes Standardization of HR practices, Alignment of HR practices with business strategy, is rejected as the significance level is below the assumed significance level of 0.05.So for all these strategic attribute is not same for private and public organizations. Null hypothesis-C2 for strategic attribute, Administrative burden reduction, Employer brand (improves), Ready to change workforce, Competence of employee

(increases), Knowledge management (supports) is accepted as the significance level is above the assumed significance level of 0.05 hence, these attributes are same for private and public organizations. Overall null hypothesis C2 is partially rejected.

5.3.2.3 Strategic capability (Manufacturing vis-à-vis Service)-To test the hypothesis C3 (There is no significant difference in mean value of strategic attributes of e-HRM between manufacturing/mining and services organizations), paired sample t-test has been used as a statistical tool.

TABLE- 5.12: Paired Sample t-Test of Strategic Attributes (Manufacturing/ Mining vis-à-vis Service)

Pair	Attributes	Mean Mfg/ Min	Mean Service	Mean Diff.	t	Sign
1	Standardization of HR practices	3.512	3.787	-.2750	-1.697	.094
2	Administrative burden reduction	3.812	3.925	-.1125	-.773	.442
3	Employer brand (improves)	3.500	3.937	-.4375	-2.806	.006*
4	Ready to change workforce	3.462	3.775	-.3125	-2.062	.043*
5	Competence of employee (increases)	3.587	3.787	-.2000	-1.321	.190
6	Knowledge management (supports)	3.450	3.962	-.5125	-3.494	.001*
7	Alignment of HR practices with business strategy	3.837	3.937	-.1000	-.638	.525
8	Strategic capability (increases)	3.912	4.137	-.2250	-1.738	.086

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (D.F. 79, sig 5%)

Table-5.12 shows null hypothesis C3 for strategic attributes, Employer brand (improves), Ready to change workforce, Knowledge management (supports) and Strategic capability (increases) is rejected as the significance level is below the assumed significance level of 0.05, so all these strategic attributes is not same for manufacturing/mining and services sector. Null hypothesis C3 for strategic attributes, Standardization of HR practices, Competence of employee (increases),

Alignment of HR practices with business strategy, Strategic capability (increases) is accepted as significance level is above the assumed significance level of 0.05, hence these attributes are not significantly different for manufacturing/mining and services sector. Overall null hypothesis C3 is partially rejected.

5.3.2.4 Strategic Capability (Organization vis-a-vis Organization)-To test the hypothesis C4 (There is no significant difference in mean value of strategic attributes among different select Indian organizations), one way ANOVA has been used as a statistical tool.

TABLE-5.13: One way ANOVA of Strategic Attributes (Organization vis-a-vis Organization).

ATT	Mean (Organisation Wise)								Mean	F	Sig.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	TM			
SZ	2.5	4.15	3.6	4	3.8	3.65	3.3	4.1	3.63	6.43	.000*
AB	2.9	3.95	3.65	4	4	4.2	4.15	4.1	3.87	3.65	.001*
EB	2.5	3.55	4.2	4	3.7	4.25	4.05	3.55	3.72	8.19	.000*
RC	3	3.6	3.8	4.15	3.7	3.7	3.55	3.45	3.62	2.20	.037*
CT	2.8	3.75	3.8	3.95	3.7	4.15	3.6	3.7	3.68	3.33	.003*
KM	2.9	4.2	3.9	4.1	3.7	4.15	3.7	3.05	3.71	5.98	.000*
Al	2.8	4.05	4.35	3.9	4.1	4.25	3.45	4.2	3.89	6.20	.000*
SC	3.1	4.5	4.15	4.1	4.2	4.05	3.8	4.3	4.02	5.54	.000*

Source – Data Analysis by Scholar

Significance level with*- Null hypothesis rejected or else accepted (DF. 7/152, sig 5%)

Short forms used in table 5.13 and 5.14: ATT- Attribute, SZ-Standardization of HR practices, AB - Administrative burden reduction, EB- Employer brand (improves), RC- Ready to change workforce, CT- Competence of employee (increases), KM- Knowledge management (supports), Al-Alignment of HR practices with business strategy, SC-Strategic capability (increases)

Table-5.13 shows significance level of all strategic attributes of e-HRM Standardization of HR practices, Administrative burden reduction, Employer brand (improves), Ready to change workforce, Competence of employee (increases) , Knowledge management (supports), Alignment of HR practices with business strategy, Strategic capability (increases) is below the assumed significance level of 0.05 hence null hypothesis is rejected and it can be said that these strategic attributes is different in Indian organizations hence null hypothesis (H0) is C4 rejected.

5.3.2.5 Strategic Attributes Association To test the hypothesis C5 (There exist no association between strategic attributes and strategic capability), correlations analysis has been used as a statistical tool.

TABLE -5.14: Correlations Coefficient of Strategic Attributes

ATT	SZ	AB	EB	RC	CT	K M	Al	SC
SZ	1							
AB	.776 ** (0.00)	1						
EB	.596** (0.00)	.736** (0.00)	1					
RC	.569** (0.00)	.593** (0.00)	683** (0.00)	1				
CT	.632** (0.00)	.680** (0.00)	.767** (0.00)	.683** (0.00)	1			
KM	.690** (0.00)	.659** (0.00)	.684** (0.00)	.627** (0.00)	.763** (0.00)	1		
Al	.691" (0.00)	.682** (0.00)	.731** (0.00)	.604** (0.00)	.695** (0.00)	.748** (0.00)	1	
SC	.742** (0.00)	.741** (0.00)	.709** (0.00)	.590** (0.00)	.751** (0.00)	.764** (0.00)	.802** (0.00)	1

Source – Data analysis by scholar
** Statistically significant at 0.05 level (2-tailed).

Table -5.14 shows there exists a significant relationship between all the strategic attributes and strategic capability at 0.05 significant levels hence null hypothesis C5 is rejected.

5.3.2.6 Strategic attributes impact - To test the hypothesis C6 (Strategic attributes of e-HRM have no significant impact on strategic capability of Indian organizations), regression has been used as a statistical tool.

TABLE 5.15: Regression Coefficient (Dependent Variable: Strategic capability)

Attributes	Unstandardized Coefficients		t	Sig.
	B	Beta		
Constant	.808		5.255	.000*
Standardization of HR practices	.142	.171	2.456	.015*
Administrative burden reduction	.131	.151	2.040	.043*
Employer brand (improves)	.018	.020	.271	.787
Ready to change workforce	-.048	-.055	-.944	.346
Competence of employee (increases)	.181	.209	2.854	.005*
Knowledge management (supports)	.136	.154	2.161	.032*
Alignment of HR practices with business strategy	.290	.339	4.899	.000*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F. 159, sig 5%)

Table – 5.15 depicts attributes Employer brand (improves), Ready to change workforce is not statistically significant and doesn't fit in module**.** As per statistics tentative module of attributes having significant impact on strategic capability comprises of .808 (Constant) + .142 (Standardization of HR practices) + .131 (Administrative burden reduction) +.181 (Competence of employee) + .136 (Knowledge management) + .290 (Alignment of HR practices with business strategy). Constant is statistically significant as its value is 0.00 below .05. It can be said that five attributes have significant impact on strategic capability, hence null hypothesis C6 is partially rejected.

5.4 Hypothesis Formulation (Financial Contribution)- To analyze research objective no. 4, "To assess the impact of E-HRM in Indian organizations in terms of financial contribution" with the main hypothesis five more hypothesis has been formulated to analyze financial contribution attributes of e-HRM from different perspectives.

Research Hypothesis – (H0- Null, H1- Alternate)

D1) H0 There is no significant difference in present mean value of financial attributes of e-HRM and test value.

D1) H1 There is significant difference in present mean value of financial attributes of e-HRM and test value.

D2) H0 There is no significant difference in mean value of financial attributes of e-HRM between public and public organizations.

D2) H1 There is significant difference in mean value of financial attributes of e-HRM between public and private organizations.

D3) H0 There is no significant difference in mean value of financial attributes of e-HRM between manufacturing/ mining and services organizations.

.D3) H1 There is significant difference in mean value of financial attributes of e-HRM between manufacturing/mining and services organizations.

D4) H0 There is no significant difference in mean value of financial attributes among select Indian organizations.

D4) H1 There is significant difference in mean value of financial attributes among select Indian organizations.

D5) H0 There exist no association between financial attributes and financial contribution.

D5) H1 There exist association between financial attributes and financial contribution.

D6) H0 Financial attributes of e-HRM have no significant impact on financial contribution.

D6) H1 Financial attributes of e-HRM have significant impact on financial contribution.

5.4.1 Data analysis and interpretation- Beside descriptive statistics one sample t-test had been used to test the hypothesis D1. Paired Sample t Test has been used to test the hypothesis D2 and D3**.** ANOVA has been used to test the hypothesis D4. Correlations analysis has been used to test the hypothesis D5. Regression analysis has been used to test the hypothesis D6. A Cronbach's Alpha value of 0.940 shows questionnaire is reliable.

5.4.2 HYPOTHESIS TESTING

5.4.2.1 Financial Attributes Value To test the hypothesis D1 (There is no significant difference in present mean value of financial attributes of e-HRM and test value), one sample t- test has been used applying a hypothesized test mean value of 3.5, assuming that a mean value of 3.5 will support the null hypothesis D1.

TABLE- 5.16: One-Sample t-Test of Financial Attributes

Attributes	**Test Value = 3.5 Degree of freedom = 159**		
	Mean	**t**	**Sig. (2-tailed)**
Head count reduction (HR)	3.656	1.827	.070
Outsourcing cost reduction (HR)	3.975	6.547	.000*

Attributes	Test Value = 3.5 Degree of freedom = 159		
	Mean	t	Sig. (2-tailed)
Stationery material cost reduction	3.719	2.773	.006*
Administrative & operational cost reduction	3.819	3.857	.000*
Output of HR function (increases)	3.887	5.116	.000*
Improvement saving (quality)	3.781	4.694	.000*
Duplication of work (reduction)	4.012	6.959	.000*
Cycle time of HR function (reduction)	4.006	6.444	.000*
Financial contribution	4.175	11.536	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (DF 159, sig 5%)

Table-5.16 show significance level of most of the financial attributes of e-HRM is below the assumed significance level, so null hypothesis D1 is rejected. For attribute Head count reduction (HR) significance level is above the assumed significance, so null hypothesis is accepted. Overall null hypothesis D1is partially rejected.

5.4.2.2 Financial contribution (Private vis-a-vis Public)-To test the hypothesis D2 (There is no significant difference in mean value of financial attributes of e-HRM between public and public organizations), paired sample t-test has been used as a statistical tool.

TABLE-5.17: Paired Sample t-Test of Financial Attributes (Private vis-à-vis Public)

Pair	Attributes	Mean Private	Mean Public	Mean Difference	t	Sig.

Pair	Attributes	Mean Private	Mean Public	Mean Difference	t	Sig.
1	Head count reduction (HR)	3.91	3.40	.5125	2.91	.005*
2	Outsourcing cost reduction (HR)	4.10	3.84	.2625	1.834	.070
3	Stationery material cost reduction	3.81	3.63	.1875	1.504	.136
4	Administrative & operational cost reduction	3.84	3.80	.0375	.246	.806
5	Output of HR function (increases)	4.01	3.77	.2500	1.723	.089
6	Improvement saving (quality)	3.71	3.88	-.1625	-1.473	.145
7	Duplication of work (reduces)	4.15	3.85	.3000	2.101	.039*
8	Cycle time of HR function (reduces)	4.25	3.76	.4875	3.123	.003*
9	Financial contribution	4.22	4.12	.1000	.823	.413

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted D.F. 79, sig 5%

Table-5.17 shows null hypothesis D2 for attribute Head count reduction (HR) , Duplication of work (reduces), Cycle time of HR function (reduces) is rejected as the significance level is below the assumed significance level, so these attributes are not same for private and public organizations. Null hypothesis D2 for Outsourcing cost reduction (HR), Stationery material cost reduction, Administrative & operational cost reduction, Output of HR function (increases), Improvement saving (quality), Financial contribution is accepted as the significance level is above the assumed significance level, hence, current stage of these attributes are same for private and public organizations. Overall null hypothesis D2 is partially rejected.

5.4.2.3 Financial contribution (Manufacturing/Mining vis-a-vis Services)-To test the hypothesis D3 (There is no significant difference in mean value of financial attributes of e-HRM between manufacturing/ mining and services organizations), paired sample t- test has been used as a statistical tool.

TABLE- 5.18: Paired Sample t-Test of Financial Attributes
(Manufacturing/ Mining vis-a-vis Service)

Pair	Attributes	Mean Mfg/Mining	Mean Services	Mean Difference	t	Sig.
1	Head count reduction (HR)	3.612	3.700	-.087	-.524	.602
2	Outsourcing cost reduction (HR)	4.000	3.937	.062	.449	.655
3	Stationery material cost reduction	3.737	3.700	.037	.231	.818
4	Administrative & operational cost reduction	3.787	3.850	-.062	-.356	.723
5	Output of HR function (increases)	3.712	4.062	-.350	-2.438	.017*
6	Improvement saving (quality)	3.712	3.875	-.162	-1.370	.174
7	Duplication of work (reduction)	3.850	4.150	-.300	-2.308	.024*
8	Cycle time of HR function (reduction)	3.900	4.112	-.212	-1.441	.153
9	Financial contribution	4.062	4.287	-.225	-2.080	.041*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F.79, Sig 5%)

Table-5.18 shows null hypothesis D3 for financial attributes, Output of HR function (increases), Duplication of work (reduction), and Financial contribution is rejected as the significance level is below the assumed significance level of 0.05, so current stage of these attributes is not same for manufacturing/mining and services sector. Null hypothesis-D3 for financial attributes Head count reduction (HR) , Outsourcing cost reduction (HR) , Stationery material cost reduction, Administrative & operational cost reduction, Improvement saving (quality), Cycle time of HR function (reduction) is accepted as the significance level is above the assumed significance level 0.05, hence current stage of these attributes are same for manufacturing/mining and services sector . Overall null hypothesis D3 is partially rejected

5.4.2.4 Financial contribution (Organization vis-a-vis Organization)-To test the hypothesis D4 (There is no significant difference in mean value of financial attributes among select Indian organizations), one way ANOVA has been used as a statistical tool.

TABLE- 5.19: One way ANOVA of Financial Attributes (Organization vis-a-vis Organization).

ATT	Mean (Organization Wise)								Mean	F	Sig.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	TM			
HC	2.95	4.1	3.7	4.1	3.8	3.65	2.9	4.05	3.66	4.65	0.00*
OC	3.8	4.05	3.75	3.95	4.2	3.6	4.05	4.4	3.97	1.62	.133
SM	2.8	2.95	3.95	4	4.35	3.8	3.9	4	3.72	7.76	0.00*
AO	3	3.4	3.75	4.15	4.45	3.95	4.1	3.75	3.82	4.38	0.00*
OH	2.75	4	4	4.1	4.05	4.05	4.15	4	3.89	5.61	0.00*
I S	3.7	3.75	3.85	3.75	3.7	3.9	4.05	3.55	3.78	.787	.599
DC	3.2	4.25	4.05	4.15	4.3	3.9	4.25	4	4.01	3.21	.003*
CT	2.9	4.15	4.15	4.15	4.7	4	4	4	4.01	6.30	0.00*
FC	3.6	4.35	4.15	4.35	4.4	4.25	4.3	4	4.2	2.78	.009*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (DF 7/152, sig 5%)

Short forms used in table 5.19 and 5.20**:** ATT- Attribute, HC - Head count reduction, OC - Outsourcing cost reduction (HR), SM - Stationery material cost reduction, AO- Administrative & operational cost reduction, OH- Output of HR function (increases), IS - Improvement saving (quality), DC- Duplication of work (reduction), CT- Cycle time of HR function (reduction), FC- Financial contribution

Table-5.19 shows significance level all financial attributes, HR head count reduction, Stationery material cost reduction, Administrative & operational cost reduction, Output of HR function (increases), Duplication of work (reduction), Cycle time of HR function (reduction) and Financial contribution is below the assumed significance level of 0.05 hence null hypothesis is rejected and it can be said that these financial attributes is different in Indian organizations. For

financial attributes Outsourcing cost reduction (HR) and Improvement saving (quality) significance level is above the assumed significance level of 0.05 hence, these attributes are not significantly different for Indian organizations. Overall null hypothesis D4 is partially rejected

5.4.2.5 Financial Attributes Association- To test the hypothesis D5 (There exist no association between the financial attributes and financial contribution), correlations analysis has been used as a statistical tool.

TABLE- 5.20: Correlations Coefficient of Financial Attributes.

ATT	HC	OC	SM	AO	OH	IS	DC	CT	FC
HC	1								
OC	.498** (.00)	1							
SM	.516** (.00)	.425** (.00)	1						
AO	.417** (.00)	.264** (.001)	.686* (.00)*	1					
OH	.624** (.00)	.419** (.00)	.552* (.00)*	.425** (.00)	1				
IS	.207** (.009)	.182* (.021)	.159* (.044)	.251** (.001)	.252** (.001)	1			
DC	.479** (.00)	.376** (.00)	.504** (.00)	.299** (.00)	.671** (.00)	.209** (.008)	1		
CT	.622** (.00)	.331** (.00)	.655** (.00)	.485** (.00)	.694** (.00)	.269** (.001)	.679** (.00)	1	
FC	.610**5 (.00)	.358** (.00)	.510** (.00)	.496** (.00)	.729** (.00)	.349** (.00)	.717** (.00)	.725** (.00)	1

Source – Data analysis by scholar

** Statistically significant at 0.05 level (2-tailed).

Table -5.20 shows there exist significant relationship between all the financial attributes and financial contribution at 0.05 significant levels, hence null hypothesis D5 is rejected.

5.4.2.6 Financial Attributes Impact - To test the hypothesis D6 (Financial attributes of e-HRM have no significant impact on financial contribution), regression has been used as a statistical tool.

TABLE -5.21: Regression Coefficients (Dependent Variable: Financial contribution)

Attributes	**Unstandardized Coefficients**		**t**	**Sig.**
	B	**Beta**		
(Constant)	.899		4.207	.000*
Head count reduction (HR)	.099	.144	2.306	.022*
Outsourcing cost reduction (HR)	-.015	-.019	-.353	.724
Stationery material cost reduction	-.133	-.179	-2.468	.015*
Administrative & operational cost reduction	.160	.226	3.676	.000*
Output of HR function (increases)	.182	.236	3.404	.001*
Improvement saving (quality)	.100	.103	2.230	.027*
Duplication of work (reduction)	.276	.348	5.365	.000*
Cycle time of HR function (reduction)	.165	.222	2.921	.004*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F. 159, Sig 5%)

Table – 5.21 depicts attributes "outsourcing cost" is not statistically significant and doesn't fit in module. As per statistics tentative module of attributes having impact on financial contribution comprises of .899 (Constant) + .099 (Head count reduction) **-** 133 (Stationery material cost reduction) + .160 (Administrative & operational cost reduction) + .182 (Output of HR function) +.100 (Improvement saving) + .276 (Duplication of work) + .165 (Cycle time of HR function). So it can be said that only seven attributes have significant impact on financial contribution, hence null hypothesis D6 is partially rejected. One thing is noticeable of this regression analysis is that Stationery material cost reduction attribute is showing negative coefficient.

5.5 Hypothesis Formulation (Stakeholder's Satisfaction) - To analyze research objective no. 5 , **"**To assess the impact of e-HRM in Indian organizations in terms of improvement in internal

stakeholder's satisfaction ” with the main hypothesis six more hypothesis have been formulated so that analysis could be done through different perspective and the study could provide clear picture of stake holder’s satisfaction of e-HRM from different context.

Research Hypothesis – (H0- Null Hypothesis, **H1- Alternate Hypothesis**)

E1) H0 There is no significant difference in present mean value of satisfaction attributes of e-HRM and test value.

E1) H1 There is significant difference in present mean value of satisfaction attributes of e-HRM and test value.

E2) H0 There is no significant difference in mean value of satisfaction attributes of e-HRM between private and public organizations.

E2) H1 There is significant difference in mean value of satisfaction attributes of e-HRM between private and public organizations.

E3) H0 There is no significant difference in mean value of satisfaction attributes of e-HRM between manufacturing/mining and services organizations.

E3) H1 There is significant difference in mean value of satisfaction attributes of e-HRM between manufacturing/mining and services organizations.

E4) H0 There is no significant difference in mean value of satisfaction attributes among different select Indian organizations.

E4) H1 There is significant difference in mean value of satisfaction attributes among different select Indian organizations.

E5) H0 There is no significant difference in satisfaction attributes considering employees demographics as variables.

E5) H1 There is significant difference in satisfaction attributes considering employees demographics as a variables.

E6) H0 There exist no association between all the satisfaction attributes and internal stakeholder's satisfaction.

E6) H1 There exist an association between the satisfaction attributes and internal stakeholder's satisfaction

E7) H0 Satisfaction attributes of e-HRM have no significant impact on internal stakeholder's satisfaction.

E7) H1 Satisfaction attributes e-HRM have significant impact on internal stakeholder's satisfaction.

5.5.1 Data analysis and interpretation-Beside descriptive statistics one sample t-test had been used to test the hypothesis E1. Paired Sample t-Test has been used to test the hypothesis E2 and E3**.** ANOVA has been used to test the hypothesis E4 and E5. Correlations analysis has been used to test the hypothesis E6. Regression analysis has been used to test the hypothesis E7. 0.886 value of Cronbach's Alpha confirms reliability of questionnaire.

5.5.2 HYPOTHESIS TESTING

5.5.2.1 Satisfaction attributes value- To test the hypothesis E1 (There is no significant difference in present mean value of satisfaction attributes of e-HRM and test value), one sample

t -test has been used using a hypothesized test value of 3.5 assuming that a mean value of 3.5 will support the null hypothesis E1.

TABLE- 5.22: One-Sample t-Test of Satisfaction Attributes

Attributes	**Test Value = 3.5 Degree of freedom = 399**		
	Mean	**t**	**Sig. (2-tailed)**
Easy to use	3.9850	10.479	.000*
Useful to use	4.1950	16.570	.000*
24*7 (flexibility)	3.9175	7.643	.000*
Easy to access	4.0475	11.826	.000*
Empowers personnel	3.9225	8.412	.000*
Improves transparency	4.2000	16.365	.000*
Role clarity (facilitates)	4.3450	5.742	.000*
Internal communication (improves)	3.9850	11.623	.000*
HR dependence (reduces)	3.8225	6.713	.000*
Decision support system	3.8825	8.470	.000*
Improves satisfaction (employee)	4.0150	12.297	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (DF 399, Sig 5%)

According to table- 5.22 all the attributes of satisfaction has low significance values of 0.00 which is below assumed significance level of 0.05, hence null hypotheses E1 is rejected. Mean value of all the financial attributes is above the test value hence it can be concluded that e-HRM attributes of internal stakeholder's satisfaction is notably present in Indian organizations.

5.5.2.2 Stakeholder's Satisfaction (Private vis-a-vis Public)-To test the hypothesis E2 (There is no significant difference in mean value of satisfaction attributes of e-HRM between private and public organizations), paired sample t-test has been used as a statistical tool.

TABLE-5.23: Paired Sample t-Test of Satisfaction Attributes (Private vis-à-vis Public)

Pair	Attributes	Mean Private	Mean Public	Mean Diff.	t	Sig.
1	Easy to use	4.04	3.93	0.11	1.145	.254
2	Useful to use	4.185	4.205	-.02	-.231	.817
3	24*7 (flexibility)	3.895	3.94	-.045	-.413	.680
4	Easy to access	4.035	4.06	-.025	-.260	.795
5	Empowers personnel	3.885	3.96	-.075	-.746	.456
6	Improves transparency	4.095	4.305	-.21	-2.582	.011*
7	Role clarity (facilitates)	4.2	4.29	-.09	-.422	.673
8	Internal communication (improves)	3.895	4.075	-.18	-2.148	.033*
9	HR dependence (reduces)	3.845	3.8	.045	.458	.648
10	Decision support system	3.83	3.935	-.105	-1.170	.244
11	Improves satisfaction (employee)	3.955	4.075	-.12	-1.517	.131

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F 199, Sig 5%)

Table-5.23 shows null hypothesis E2 for attribute Improves transparency and Internal communication is rejected as the significance level is below the assumed significance level of 0.05.So these satisfaction attributes is not same for private and public organizations. Null hypothesis (H0) E2 for satisfaction attribute Easy to use, Useful to use, 24*7 (flexibility), Easy to access, Empowers personnel, Role clarity (Facilitates), HR dependence (Reduces), Decision support system and Improves satisfaction(employee) is accepted as the significance level is above the assumed significance level of 0.05 hence, these attributes are same for private and public organizations. Overall null hypothesis E2 is partially rejected.

5.5.2.3 Stakeholder's Satisfaction (Manufacturing/Mining vis-a-vis Service) - To test the hypothesis E3 (There is no significant difference in mean value of satisfaction attributes of e-

HRM between manufacturing/mining and service organizations), paired sample T test has been used as a statistical tool.

TABLE- 5.24: Paired Sample t-Test of Satisfaction Attributes (Manufacturing/Mining vis-à-vis Service)

Pair	Attributes	Mean Mfg/ Mining	Mean Services	Mean Diff.	t	Sig.
1	Easy to use	3.8	4.17	-.37	-4.072	.000*
2	Useful to use	4.09	4.3	-.21	-2.582	.011*
3	24*7 (flexibility)	3.83	4.005	-.175	-1.542	.125
4	Easy to access	3.89	4.205	-.315	-3.507	.001*
5	Empowers personnel	3.72	4.125	-.405	-4.009	.000*
6	Improves transparency	4.115	4.285	-.17	-1.971	.049*
7	Role clarity (facilitates)	4.31	4.18	.13	.609	.543
8	Internal communication (improves)	4.04	3.93	.11	1.357	.176
9	HR dependence (reduces)	3.835	3.81	.025	.255	.799
10	Decision support system	3.87	3.895	-.025	-.280	.780
11	Improves satisfaction (employee)	3.935	4.095	-.16	-2.048	.042*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (D.F. 199, Sig 5%)

Table-5.24 shows null hypothesis(H0) E3 for attribute Easy to use, Useful to use, Easy to access, Empowers personnel and Improves transparency, Improves satisfaction (employee) is rejected as the significance level is below the assumed significance level of 0.05, so all these satisfaction attributes is not same for manufacturing/mining and services organizations. Null hypothesis E3 for satisfaction attribute 24*7 (flexibility), Role clarity(facilitates), Internal communication (improves), HR dependence (reduces), Decision support system accepted as the significance level is above the assumed significance level 0.05, hence, these attributes are same for manufacturing/mining and services sector . Overall one can infer that null hypothesis E3 partially rejected.

5.5.2.4 Stakeholder's satisfaction (Organization vis-a-vis Organization) -To test the hypothesis E4 (It is hypothesized that there is no difference in mean value of satisfaction attributes among select Indian organizations), one way ANOVA has been used as a statistical tool.

Table-5.25: One way ANOVA of Satisfaction Attributes (Organization vis-a-vis Organization).

ATT	Mean (Organization Wise)								Mean	F	Sig.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	TM			
EU	3.9	3.86	4.3	4.12	4.36	3.3	4.4	3.64	3.985	11.06	.00*
UU	4.38	4.06	4.4	4.3	4.56	3.7	4.44	3.72	4.195	8.89	.00*
24*7	3.66	3.56	4.02	4.16	4.34	3.66	4.28	3.66	3.917	4.48	.00*
EA	3.88	3.8	4.44	4.08	4.26	3.78	4.5	3.64	4.047	6.71	.00*
EP	3.64	3.72	4.1	4.44	4.14	3.52	4.24	3.58	3.922	6.59	.00*
IT	4.14	3.92	4.4	4.4	4.26	4.26	4.42	3.8	4.2	3.87	.00*
RC	4.66	3.98	4.26	4.38	4.52	4.02	4.1	4.04	4.245	.679	.690
IC	4.18	3.7	3.92	4.38	4.22	4.02	3.72	3.74	3.985	5.13	.00*
HD	3.92	3.7	3.9	3.82	4.06	3.64	3.82	3.72	3.822	1.01	.422
DSS	3.9	3.56	3.92	4.22	4.16	3.74	3.88	3.68	3.882	3.26	.00*
IS	3.8	3.7	4.24	4.3	4.26	4.06	4.14	3.62	4.015	5.63	.00*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F 7/152, Sig 5%)

Short forms used in table 5.25: ATT- Attribute, EU- Easy to use, UU - Useful to use, 24*7-24*7 flexibility, EA- Easy to access, EP - Empowers personnel, IT- Improves transparency, RC- Role clarity (facilitates), IC- Internal communication (Improves), HD - HR Dependence (reduces) , DSS-Decision support system, IS - Improves satisfaction(employee)

Table-5.25 shows satisfaction attributes Easy to use, Useful to use, 24*7 (flexibility), Easy to access, Empowers personnel, Improves transparency , Decision support system, Internal communication (improves), Stakeholder's satisfaction (improves) is below the assumed significance level of F at 0.05 hence null hypothesis rejected, so it can be concluded that these satisfaction attributes is different in Indian organizations. For satisfaction attributes Role clarity (facilitates), HR dependence (reduces) significance level is above the assumed significance level of F at 0.05 hence, these attributes are same for select Indian organizations. Overall one can infer that null hypothesis E4 partially rejected.

5.5.2.5 Stakeholder's satisfaction (Intra Demographic variable) -To test the hypothesis E5 (There is no significant difference in satisfaction attributes considering employees demographics as variables), one way ANOVA has been used as a statistical tool.

TABLE- 5.26: One-way ANOVA of Demographic Variable-Qualification

Att#	Qual#	N	Mean	f	Sig.	Att#	Qual#	N	Mean	f	Sig#
Easy to use	10	12	3.75	5.41	.001*	Role clarity	10	12	4.42	1.18	.316
	10+2	42	3.69				10+2	42	3.93		
	Degree	176	3.87				Degree	176	4.14		
	P. G.	170	4.19				P. G.	170	4.65		
Useful to use	10	12	4.33	3.28	.021*	Internal communication	10	12	4.33	1.63	.181
	10+2	42	4.09				10+2	42	4.02		
	Degree	176	4.05				Degree	176	3.90		
	P. G.	170	4.32				P. G.	170	4.04		
24*7(flexibility)	10	12	4.41	2.25	.082	HR dependence	10	12	4.58	3.96	.008*
	10+2	42	3.59				10+2	42	3.67		
	Degree	176	3.90				Degree	176	3.73		

Att#	Qual#	N	Mean	f	Sig.	Att#	Qual#	N	Mean	f	Sig#
	P. G.	170	3.98				P. G.	170	3.91		
Easy to Access	10	12	4.42	3.16	.025*	Decision support system DSS.	10	12	4.42	2.54	.056
	10+2	42	3.64				10+2	42	3.64		
	Degree	176	4.03				Degree	176	3.92		
	P. G.	170	4.07				P. G.	170	3.86		
Empowerment	10	12	4.08	3.82	.010*	Improves satisfaction	10	12	4.25	.549	.649
	10+2	42	3.45				10+2	42	3.93		
	Degree	176	3.93				Degree	176	4.04		
	P. G.	170	4.02				P. G.	170	3.99		
Transparency	10	12	4.67	4.99	.002*	(Att# Attributes, Qual# Qualification) Significance level with*- Null hypothesis rejected or else accepted (D.F.3/ 396, sig 5%)					
	10+2	42	3.74								
	Degree	176	4.21								
	P. G.	170	4.20								

Source – Data analysis by scholar

Null hypothesis (H0) E5 is accepted for the attribute 24*7(flexibility), Role clarity (facilitates), Internal communication (improves), Decision support system (DSS) , improves satisfaction (employee) as the significance level is above 0.05, so it can be said there is no significant difference in these attributes taking qualification as a variable. Null hypothesis E5 is rejected for the attribute Easy to use, Useful to use, Easy to Access, Empowerment (personnel), Transparency (improves) and HR dependence (reduces) as the significance level is below 0.05, so there is significant difference in these attributes taking "Qualification" as demographic variable. Hence for demographic variable "Qualification" null hypothesis is partially rejected.

TABLE- 5.27: One -way ANOVA of Demographic Variable -Position

At#	Position	N	Mean	f	Sig	At#	Position	N	Mean	f	At#
Eas	Operative	120	3.87	1.45	.236	Rol	Operative	120	4.12	1.27	.281

At#	Position	N	Mean	f	Sig	At#	Position	N	Mean	f	At#
	Supervisor	120	4.02				Supervisor	120	4.18		
	Manager	160	4.05				Manager	160	4.63		
Useful to use	Operative	120	4.19	.176	.838	Communication	Operative	120	4.03	2.76	.065
	Supervisor	120	4.21				Supervisor	120	4.09		
	Manager	160	4.15				Manager	160	3.87		
24*7(flexibility)	Operative	120	3.79	1.27	.283	HR dependence	Operative	120	3.81	.470	.625
	Supervisor	120	3.93				Supervisor	120	3.89		
	Manager	160	4.00				Manager	160	3.78		
Easy to access	Operative	120	3.90	1.46	.234	DSS.	Operative	120	3.82	.353	.703
	Supervisor	120	4.10				Supervisor	120	3.90		
	Manager	160	4.04				Manager	160	3.91		
Empowerment	Operative	120	3.76	2.36	.095	Satisfaction	Operative	120	4.01	.250	.779
	Supervisor	120	4.02				Supervisor	120	4.06		
	Manager	160	3.97				Manager	160	3.99		
Transparency	Operative	120	4.13	.149	.861	(At# Attribute) Significance level with*- Null hypothesis rejected or else accepted (D.F.2/ 397, sig 5%)					
	Supervisor	120	4.18								
	Manager	160	4.19								

Source – Data analysis by scholar

Null hypothesis E5 is accepted for all the attributes of demographic variable 'Position' as significance level is above 0.05, so it can be said there is no significant difference in these

attributes taking “Position” as demographic variable. Hence for demographic variable “Position” null hypothesis is accepted.

TABLE- 5.28: One-way ANOVA of Demographic Variable -Area

Att#	Area	N	Mean	F	Sig.	Att#	Area	N	Mean	f	Sig.
Easy to use	Mkt#	57	4.53	4.88	.000*	Role clarity	Mkt#	57	4.40	2.17	.057
	HR	69	3.93				HR	69	4.33		
	IT	51	3.82				IT	51	4.00		
	Fin#	49	3.86				Fin#	49	5.57		
	Ope#	151	3.92				Ope#	151	4.05		
	Oth#	43	3.91				Oth#	43	4.21		
Useful to use	Mkt#	57	4.53	4.86	.000*	Internal communication	Mkt#	57	4.26	6.27	.000*
	HR	69	4.28				HR	69	4.26		
	IT	51	3.94				IT	51	3.67		
	Fin#	49	3.84				Fin#	49	3.65		
	Ope#	151	4.23				Ope#	151	3.99		
	Oth#	43	4.09				Oth#	43	3.91		
24*7 (flexibility)	Mkt#	57	4.02	2.17	.057	HR dependence	Mkt#	57	3.98	1.83	.107
	HR	69	4.03				HR	69	3.94		
	IT	51	3.80				IT	51	3.57		
	Fin#	49	4.14				Fin#	49	3.67		
	Ope#	151	3.70				Ope#	151	3.78		
	Oth#	43	4.14				Oth#	43	4.00		
Easy to Access	Mkt#	57	4.54	5.19	.000*	Decision support	Mkt#	57	4.07	2.70	.020*
	HR	69	3.96				HR	69	3.93		
	IT	51	3.94				IT	51	3.53		

Att#	Area	N	Mean	F	Sig.	Att#	Area	N	Mean	f	Sig.
	Fin#	49	3.98				Fin#	49	3.94		
	Ope#	151	3.82				Ope#	151	3.95		
	Oth#	43	4.14				Oth#	43	3.70		
Empowerment	Mkt#	57	4.25	2.64	.023*	Improves Satisfaction	Mkt#	57	4.19	2.92	.013*
	HR	69	4.07				HR	69	4.26		
	IT	51	3.84				IT	51	3.82		
	Fin#	49	3.67				Fin#	49	3.96		
	Ope#	151	3.80				Ope#	151	3.89		
	Oth#	43	4.00				Oth#	43	4.05		
Transparency	Mkt#	57	4.37	5.02	.000*	(Att#- Attribute Mkt# Marketing, Fin#-Finance Oper# -Production / Operation, Oth#- Others Significance level with*- Null hypothesis rejected or else accepted (D.F. 5/394, sig 5%)					
	HR	69	4.38								
	IT	51	3.96								
	Fin#	49	4.04								
	Ope#	151	3.98								
	Oth#	43	4.53								

Source – Data analysis by scholar

Null hypothesis E5 is accepted for the attribute 24*7(flexibility), Role clarity (facilitates), HR dependence (reduces), as the significance level is above 0.05, so it can be said there is no significant difference in these attributes taking "Area" as demographic variable. Null hypothesis E5 is rejected for the attribute "Easy to use" Useful to use, Easy to access, Empowerment (personnel), Transparency (improves), Decision support system (DSS), Improves Satisfaction (employee) as the significance level is below 0.05, so there is significant difference in these attributes taking "Area" as demographic variable. Hence for demographic variable "Area" null hypothesis is partially rejected.

TABLE- 5.29: One-way ANOVA of Demographic Variable –Experience

Att#	Exp#	N	Mean	f	Sig	Att#	Exp#	N	Mean	f	Sig.
Easy to use	1-5	117	3.0	1.57	.181	Role clarity	1-5	117	3.92	4.07	.003*
	5-10	61	4.02				5-10	61	4.15		
	10-15	81	4.11				10-15	81	4.02		
	15- 20	45	3.76				15- 20	45	3.84		
	> 20	96	4.07				> 20	96	4.55		
Useful to use	1-5	117	4.15	1.21	.307	Internal communication	1-5	117	3.88	3.86	.004*
	5-10	61	4.25				5-10	61	4.03		
	10-15	81	4.12				10-15	81	3.89		
	15- 20	45	4.00				15- 20	45	3.80		
	> 20	96	4.30				> 20	96	4.25		
24*7 (flexibility)	1-5	117	4.01	8.21	.000*	HR dependence	1-5	117	3.91	1.16	.326
	5-10	61	3.46				5-10	61	3.75		
	10-15	81	4.05				10-15	81	3.67		
	15- 20	45	3.40				15- 20	45	3.76		
	> 20	96	4.23				> 20	96	3.92		
Easy to Access	1-5	117	3.90	4.66	.001*	Decision support system (DSS)	1-5	117	3.73	2.06	.085
	5-10	61	4.08				5-10	61	3.92		
	10-15	81	3.96				10-15	81	3.84		
	15- 20	45	3.69				15- 20	45	3.87		
	> 20	96	4.32				> 20	96	4.08		
Empowerment	1-5	117	3.76	3.20	.013*	Improves satisfaction	1-5	117	3.91	2.467	.044*
	5-10	61	4.11				5-10	61	4.11		
	10-15	81	3.90				10-15	81	3.89		
	15- 20	45	3.67				15- 20	45	3.96		

Att#	Exp#	N	Mean	f	Sig	Att#	Exp#	N	Mean	f	Sig.
	> 20	96	4.14				> 20	96	4.21		
Transparency	1-5	117	3.98	4.97	.001*	(Att#-Attribute Exp# Experience) Significance level with*- Null hypothesis rejected or else accepted (D.F. 4/396, sig 5%)					
	5-10	61	4.21								
	10-15	81	4.19								
	15- 20	45	3.93								
	> 20	96	4.46								

Source – Data analysis by scholar

Null hypothesis E5 is accepted for the attribute Easy to use, Useful to use, HR dependence (reduces), Decision support system (DSS), as the significance level is above 0.05, so it can be said there is no significant difference in these attributes taking "Experience" as demographic variable. Null hypothesis E5 is rejected for the attribute 24*7(flexibility), Easy to Access, Empowerment (personnel), Transparency (improves), Role clarity (facilitates), Internal communication (improves), Improves satisfaction (stakeholder's) as the significance level is below 0.05, So there is significant difference in these attributes. Hence for demographic variable "Experience" null hypothesis E5 is partially rejected

TABLE- 5.30: One-way ANOVA of Demographic Variable -Gender

Att#	Gen#	No.	Mean	f	Sig.	Att#	Gen#	No.	Mean	f	Sig
Easy to use	M	334	3.94	4.80	.029*	Role clarity	M	334	4.44	1.99	.159
	F	66	4.21				F	66	3.88		
Useful to use	M	334	4.19	.377	.540	Internal	M	334	4.01	1.67	.196
	F	66	4.12				F	66	3.86		
24*7	M	334	3.91	.180	.672	HR	M	334	3.84	.360	.549
	F	66	3.97				F	66	3.76		
Easy to Access	M	334	4.01	.069	.793	DSS	M	334	3.90	.867	.352
	F	66	4.05				F	66	3.79		
Empowers	M	334	3.93	.271	.603	Improves Satisfaction	M	334	4.03	.928	.336
	F	66	3.86				F	66	3.92		
Transparency	M	334	4.16	.074	.785	(Att#- Attribute, Gen#- Gender) Significance level with*- Null hypothesis rejected or else accepted (D.F. 1/398, sig 5%)					
	F	66	4.20								

Source – Data analysis by scholar

Null hypothesis E5 is accepted for the attribute Useful to use, 24*7(flexibility), Easy to access, Empowerment (personnel), Transparency (improves), Role clarity (facilitates), Internal communication (improves), HR dependence (reduces), DSS (Decision support system) and Improves satisfaction ((employee) as the significance level is above 0.05, so it can be said there is no significant difference in these attributes taking "Gender" as demographic variable. Null hypothesis E5 is rejected for the attribute "Easy to use" as the significance level is below

0.05, so there is significant difference. Hence for demographic variable "Gender" null hypothesis E5 is partially rejected.

TABLE- 5.31: One-way ANOVA of Demographic Variable -Age

Att#	Age	N	Mean	F	Sig	Att#	Age	N	Mean	F	Sig.
Easy to use	20-30	133	3.90	2.184	.089	Role clarity	20-30	133	4.02	4.90	.002*
	30-40	139	4.06				30-40	139	4.05		
	40-50	63	4.16				40-50	63	3.59		
	50-60	65	3.82				50-60	65	4.43		
Useful to use	20-30	133	4.16	2.397	.068	Communication	20-30	133	3.81	3.60	.014*
	30-40	139	4.20				30-40	139	4.03		
	40-50	63	4.38				40-50	63	4.03		
	50-60	65	3.98				50-60	65	4.20		
24*7 (flexibility)	20-30	133	3.98	3.723	.012*	HR Dependence	20-30	133	3.77	1.08	.356
	30-40	139	3.68				30-40	139	3.91		
	40-50	63	4.06				40-50	63	3.87		
	50-60	65	4.15				50-60	65	3.68		
Easy to access	20-30	133	3.92	2.188	.089	DSS	20-30	133	3.80	1.33	.264
	30-40	139	4.01				30-40	139	3.91		
	40-50	63	3.95				40-50	63	4.06		
	50-60	65	4.28				50-60	65	3.82		
Empowerment	20-30	133	3.83	.894	.444	Improves Satisfaction	20-30	133	4.01	1.95	.120
	30-40	139	3.92				30-40	139	3.91		
	40-50	63	3.98				40-50	63	4.21		

Att#	Age	N	Mean	F	Sig	Att#	Age	N	Mean	F	Sig.
	50-60	65	4.06				50-60	65	4.06		
Transparency	20-30	133	4.11	4.84	.003*	(Att#- Attribute) Significance level with*- Null hypothesis rejected or else accepted. (D.F.3/ 396, sig 5%)					
	30-40	139	4.03								
	40-50	63	4.25								
	50-60	65	4.51								

Source – Data analysis by scholar

Null hypothesis E5 is accepted for the attribute Easy to use, Useful to use, Easy to access, Empowerment (personnel), HR dependence (reduces), DSS (Decision support system), Improves satisfaction (employee) as the significance level is above 0.05, so it can be said there is no significant difference in these attributes taking "Age" as demographic variable. Null hypothesis (H0) E5 is rejected for the attribute 24*7 (flexibility), Transparency (improves), Role clarity (facilitates), Internal communication (improves), as the significance level is below .05, so there is significant difference. Hence for demographic variable "Age" null hypothesis E5 is partially rejected

5.5.2.6 Satisfaction attributes association To test the hypothesis E6 (There exist no association between financial attributes and financial contribution), correlation has been used as a statistical tool.

TABLE- 5.32: Correlations Coefficient of Satisfaction Attributes

ATT	EU	UU	24*7	EA	EP	IT	RC	IC	RH	DSS	IS

ATT	EU	UU	24*7	EA	EP	IT	RC	IC	RH	DSS	IS
EU	1										
UU	.67** (.00)	1									
24*7	.35** (.00)	.34** (.00)	1								
EA	.53** (.00)	.48** (.00)	.45** (.00)	1							
EP	.58** (.00)	.54** (.00)	.53** (.00)	.55** (.00)	1						
IT	.41** (.00)	.29** (.00)	.44** (.00)	.53** (.00)	.58** (.00)	1					
RC	.17** (.00)	.13** (.009)	.17** (.001)	.21** (.00)	.22** (.00)	.28** (.00)	1				
IC	.40** (.00)	.37** (.00)	.28** (.00)	.39* (.00)*	.46** (.00)	.45** (.00)	.21** (.00)	1			
HD	.36** (.00)	.48** (.00)	.27** (.00)	.29**	.43** (.00)	.34** (.00)	.15** (.002)	.45** (.00)	1		
DSS	.25** (.00)	.26** (.00)	.33** (.00)	.26** (.00)	.32** (.00)	.26** (.00)	.16** (.002)	.38** (.00)	.47** (.00)	1	
IS	.41** (.00)	.47** (.00)	.46** (.00)	.42** (.00)	.59** (.00)	.47** (.00)	.20** (.00)	.49** (.00)	.61** (.00)	.57** (.00)	1

Source – Data analysis by scholar

** Statistically significant at 0.05 level (2-tailed).

Short forms used in table 5.32**:** ATT- Attribute, EU- Easy to use, UU - Useful to use, 24*7-24*7 flexibility, EA- Easy to access, EP - Empowers personnel, IT- Improves transparency, RC- Role clarity (facilitates), IC- Internal communication (improves), HD- HR Dependence (Reduces) , DSS-Decision support system, IS- Improves stakeholder's satisfaction.

Table -5.32 shows there exists a significant relationship between all the satisfaction attributes and internal stakeholder satisfaction at 0.05 significant level, hence null hypothesis E6 is rejected.

5.5.2.7 Satisfaction attributes impact - To test the hypothesis E7 (Satisfaction attributes of e-HRM have no significant impact on internal stakeholder's satisfaction), regression has been used as a statistical tool.

TABLE -5.33: Regression Coefficient
(Dependent Variable: Internal Stakeholder's Satisfaction)

Attributes	**Unstandardized Coefficients**		**t**	**Sig.**
	B	Beta		
Constant	.168		.912	.362
Easy to use	-.048	-.053	-1.113	.266
Useful to use	.100	.100	2.097	.037*
24*7 (flexibility)	.079	.103	2.617	.009*
Easy to access	-.003	-.003	-.074	.941
Empowers personnel	.188	.225	4.654	.000*
Improves transparency	.092	.094	2.158	.032*
Role clarity (facilitates)	.001	.002	.055	.956
Internal communication (improves)	.082	.081	2.052	.041*
HR dependence (reduces)	.220	.252	6.094	.000*
Decision support system	.264	.285	7.549	.000*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F. 399, sig 5%)

Table – 5.33 depicts attributes Easy to use, Easy to access; Role clarity is not statistically significant and doesn't fit in module. As per statistics tentative module of attributes having significant impact on internal stakeholder's satisfaction comprise of 0.168 (Constant) + 0.100 (Useful to use) +0.079 (24*7-flexibility) +0.188 (Empowers personnel) +0.092 ((Improves transparency) +0.082 (Internal communication) +0.220 (HR dependence) + 0.264 (Decision support system), so It can be said that seven attributes have significant impact on internal stakeholder's (i.e. employee) satisfaction, hence null hypothesis E7 is partially rejected.

Table- 5.34: Summary of Hypothesis

No	Hypothesis	Decision
A1	There is no significant difference in mean value of present level of e-HRM and test value.	Partially Rejected
A2	There is no significant difference in mean value of level of e-HRM between private and public organizations.	Partially Rejected
A3	There is no significant difference in mean value of level of e-HRM between manufacturing/mining and services organizations.	Partially Rejected
A4	There is no significant difference in mean value of level of e-HRM among select Indian organizations.	Rejected
B1	.There is no significant difference in present mean value of application of different e-HRM tools and test value.	Partially Rejected
B2	There is no significant difference in present mean value of application of e-HRM tools between private and public organizations.	Partially Rejected
B3	There is no difference in present mean value of application of e-HRM tools between manufacturing/mining and services organizations.	Partially Rejected
B4	There is no significant difference in present mean value of application of e-HRM tools among select Indian organizations.	Rejected
C1	There is no significant difference in present mean value of strategic attributes of e-HRM and test value.	Partially Rejected
C2	There is no significant difference in mean value of strategic attributes of e-HRM between private and public organizations.	Partially Rejected
C3	There is no significant difference in mean value of strategic attributes of e-HRM between manufacturing/mining and service organizations.	Partially Rejected
C4	There is no significant difference in mean value of strategic attributes among different select Indian organizations.	Rejected
C5	There exist no association between strategic attributes and strategic capability among different select Indian organizations.	Rejected
C6	Strategic attributes of e-HRM have no significant impact on strategic capability of select Indian organizations.	Partially Rejected
D1	There is no significant difference in present mean value of financial	Rejected

No	Hypothesis	Decision
	attributes of e-HRM and test value.	
D2	There is no significant difference in mean value of financial attributes of e-HRM between private and public organizations.	Partially Rejected
D3	There is no significant difference in mean value of financial attributes of e-HRM between manufacturing/mining and service organizations.	Partially Rejected
D4	There is no significant difference in mean value of financial attributes among select Indian organizations.	Partially Rejected
D5	There exist no association between financial attributes and financial contribution.	Rejected
D6	Financial attributes of e-HRM have no significant impact on financial contribution.	Partially Rejected
E1	There is no significant difference in present mean value of satisfaction attributes of e-HRM and test value.	Rejected
E2	There is no significant difference in mean value of satisfaction attributes of e-HRM between private and public organizations.	Partially Rejected
E3	There is no significant difference in mean value of satisfaction attributes of e-HRM between manufacturing/mining and service organizations.	Partially Rejected
E4	There is no significant difference in mean value of satisfaction attributes among select Indian organizations.	Partially Rejected
E5	There is no significant difference in satisfaction attributes considering employees demographics as variables.	Partially Rejected
E6	There exist no association between all the satisfaction attributes and internal stakeholder's satisfaction.	Rejected
E7	Satisfaction attributes of e-HRM have no significant impact on internal stakeholder's satisfaction of select Indian organizations.	Partially Rejected

Source – Compiled by scholar

CHAPTER- 6

CONCLUSIONS AND RECOMMENDATIONS

From literature review there is unanimity among the researcher regarding level of e-HRM as operational, relational and transformational, as originally conceived by Lepak and Snell way back in 1998. There were differences in nomenclature and some minor issues but broadly a consensus has been found till now. Literature supports that in most the organizations application of e-HRM is confined to operational and relational HRM function and there is hardly any evidence of application of e-HRM for transformational HR function. With strategic delivery approach of e-HRM, HR function devotes comparatively less time on transactional HR activities and more time on transformational or highest level activities. With this approach HR function some time reengineer their operations , opt for outsourcing, and traverse on digital platform and in most cases applies all the three alternatives concurrently. It is obvious with self service, more employees can be served and number of employees served increases drastically when self service and shared service both introduced as service delivery instrument.

It has been found that predicting contribution of e-HRM financially is very difficult as implementation and operation of e-HRM is not a exclusive activity and it is a part of business solution so very difficult to bifurcate among different functions of organizations. Review of literature indicates that use of e-HRM by the targeted employee is highly determined by level of usefulness to HR information technology rather than easiness to use. It has been revealed that e-learning in the field of ongoing education, employee-self-service (ESS) and manager self service (MSS) administration of HR function and the deployment of the intranet and extranet in the field of recruitment being the main fields of e-HRM that are facilitated by the e-HRM. The best contribution of E-HRM has been found in knowledge management as it facilitates compilation and dissemination of explicit and implicit knowledge very effectively and efficiently. Preparing change ready workforce is hard nut to crack, but e-HRM has been a harbinger of change management.

Present study has provided conclusions for rational explanation of inferences derived from statistical data interpretation and recommendations to facilitate fundamental solutions of the problems which have been recognized during the research and has provided outlook to confer implication of the outcome outside what they imply statistically. Recommendations deduce the result and specify what can be realized out of it. Conclusions and recommendations have been provided sector specific (manufacturing/mining – services) type of ownership specific (public - private). Sometime problems are organization specific hence organization specific recommendations and in some case recommendations are for Indian organizations as a whole

6.1 Conclusions and Recommendations of e-HRM level

From exploratory factor analysis three factors has been extracted out of 21 original variables. These three extracted factors widely discussed in the literature comprise of operational, relational, and transformational. Face-to-face HR services, has been omitted as it does not fit in any factor, so out of 21 original variables 20 have been retained.

Attaining different e-HRM level is not actually sequential phenomenon. Different levels of e-HRM implementation are not a mutually exclusive activity but some time at the same time two or more levels are being implemented simultaneously. In the way sometime higher levels achieved and lower level still to be achieved completely. By examining the data, and testing the hypothesis it can be concluded that e-HRM at operational but e-HRM is not at relational level and transformational level for all the attributes. In other words it can be said that e-HRM is partially at relational level and transformational level in Indian organization. In this case Indian organisation has not followed the hierarchy of e-HRM implementation rather than relational and transformational level has been implemented simultaneously.

Indian organisation has to work on “Traditional HR function” attribute of relational e-HRM and “Job design” attribute of transformational e-HRM. The result shows these two attributes is below the test value, so it can be said that level of Traditional and Job design activities is less on electronic platform in Indian organizations.

Research statistics shows that for private and public organizations mean value of level of e-HRM operational attribute "Publishing of HR information", "Web presence of HR function", and for relational attribute "Human resource planning", "Selection", "Training & development", "Traditional HR function" is different. For rest of operational attribute "Administration", "Time & labour management", "Transactional HR function" and for relational attribute "Recruitment", "Performance appraisal", "Reward & compensation", "Pen & paper" and "Automation of HR transactions" mean value are same. Statistics shows that there are significant differences in mean values for all attributes of transformational e-HRM. Mean value of attributes for private organizations are more than the public organizations for attributes having significant difference.

Research statistics shows that for manufacturing/mining and services organizations mean values of all the attributes of operational e-HRM "Administration", "Automation of HR transactions", "Time and labour management", "Publishing of HR information" , "Web presence of HR function', "Transactional HR function", are same. For relational e-HRM attributes "Human resource planning", "Pen and paper", "Automation of HR transactions", "Traditional HR function" and for transformational e-HRM attributes "Job design" , "Integrated set of web based tools" and "Mutation of HR transaction" are same. For relational e-HRM attributes "Recruitment", "Selection", "Training development", "Performance appraisal", "Reward & Compensation" and for transformational e-HRM "Electronically", "Strategic HR task" and "Centre of expertise" there are significant differences in mean values. Mean values of attributes for services sector are more than the manufacturing/mining for attributes having significant difference.

Public sector organizations and manufacturing /mining organizations must learn lessons from their counterpart private sector organizations and service sector organizations, and should take a cue and harness the benefit of e-HRM and be competitive. Similarly Private organization and services sector should strive to raise their level.

Research statistics shows that there is difference in mean values for all the attributes of operational relational and transformational e-HRM among Indian organization, so it can be said depth and penetration of e-HRM is not uniform in Indian organizations. Further it is obvious from the study that CIL is laggard as mean value of most of the attributes is lowest when compared to other

organizations. CIL and its subsidiaries (BCCL, WCL and others) has a huge workforce, not qualified and technology savvy, so the application of ICT for providing HR services is limited and confined to few select, those who are higher in the hierarchy. There has been minimal penetration of computers for blue collar workers of CIL and its subsidiaries hence most of the HR activity performed manually and digitization has been limited to operational and publishing of information only. ESS, automation, integration of HR, mutation of entries, concept of paperless office and many more… is lacking.

E-HRM should actually be a calculated step by Indian organizations to advance in digital era, by liberating itself from routine transactional, repetitive operations and ascending to newer levels like relational and to highest level, transformational by making it more in tune with business needs of the organization. For successful implementation of e-HRM, organizations must pay attention to culture of HR department, mechanism and service delivery of HR process, technology adopted, jobs and accountability of employees delivering personnel services, developmental needs, competencies of the work force. For making it successful HR professional has to support the system at every step. To make whole concept of e-HRM successful, thought and service delivery, conduct of human resource executive, functional heads and staff necessarily be compatible and as per requirement.

6.2 Conclusions and Recommendations of e-HRM Tools

Statistical interpretation elaborates that most of electronic human resource instruments like, HR Intranet Application (HRIA), Self Service Application (SSA), Integrated HRM Suite Application (ISA) and are in extensive use in Indian organizations. HR Portal Application (HRPA) has limited use and application of Interactive Voice Response (IVR), HR Extranet Application (HREA), HR Functional Application (HRFA), is minimal. It is quite obvious that most of Indian organizations are using Integrated HRM Suite Application (ISA) hence HR Functional Application (HRFA) is less in use.

From analysis it is quite obvious application of most of e-HRM instruments like Interactive Voice Response (IVR), HR Intranet Application (HRIA), Self Service Application (SSA), HR Extranet Application (HREA), HR Portal Application (HRPA), and Integrated HRM Suite Application (ISA) are significantly different for private and public organizations. Mean values indicate private

organizations are ahead in application of e-HRM tools to public organizations, but in case application of HR Functional Application (HRFA) there is no significant difference or we can say that application of HR Functional Application (HRFA) is same for public and private organizations.

In the same way research has found that application of some of e-HRM instruments like HR Intranet Application (HRIA), HR Extranet Application (HREA), HR Functional Application (HRFA), Integrated HRM Suite Application (ISA), are significantly different for manufacturing/mining and services. But in case application of Interactive Voice Response (IVR), Self Service Application (SSA) and HR Portal Application (HRPA) there is no significant difference or we can say that application of these instruments is same for manufacturing/mining and services organizations. Mean value shows for most of the tools with significant difference, service sector are ahead. In case of HR Extranet Application (HREA), manufacturing sector is ahead by providing a link to employee for accessing third party services.

Research statistics shows that there is difference in application of e-HRM tools, so it can be said depth and penetration of e-HRM tools are not uniform in Indian organizations. Further it is obvious from the study that CIL is laggard as mean value of most of the tools is lowest when compared to other organizations.

It is obvious that applications of e-HRM instruments are at different stage of growth and all the instruments are not fully utilized. To gain maximum benefit out of the e-HRM instruments organization must inculcate instruments relevant to them and simultaneously provide awareness and training to those employees who are either digitally illiterate or skeptical of using these instruments. In some organizations at corporate level, these instruments are functional but at unit level its application is limited. In similar manner application of these instruments are limited to certain level of employee or those who are higher in the hierarchy and there is dearth of trickledown effect. It is evident from the fact that public sector organizations are laggards in application of different e-HRM instruments compared to private sector organizations and these organizations are supposed to take more initiative to harness the benefit of e-HRM. HR personnel must create awareness and if possible conduct workshop and seminar for staff and line manager to make it successful. The biggest

motivation for employees to use e-HRM instruments is to provide a link to choose and track their career path.

These recommendations are more relevant to labor intensive organization like CIL where lots of e-HRM tools are still not functional and concept of HR self service, automation and mutation of transactions are distant dream. The demographic structures of the employee are also not in favor of e-HRM implementation. HR professionals, line managers and top management have to work hard and have take it as a mission, moreover after 4-5 years almost all the employee will retire who joined CIL at the time of nationalization. Computer literacy can be imparted to only those workforce who are literate and it has been seen that lot of workforce are illiterate or less educated who joined CIL at the time of nationalization. So after retirement of the entire workforce who joined at the time of nationalization it would be easy to implement e-HRM.

6.3 Conclusions and Recommendations of Strategic Capability

Result shows that present mean value of strategic attributes "Administrative burden reduction", "Employer brand", "Competence management", "Knowledge management", "Alignment of HR practices", "Strategic capability" is significantly high but mean value of strategic attributes, "Standardization of HR practices", and "Ready to change workforce" is not significantly different to mean test value, hence it becomes evident that e-HRM had not been able to standardizes HR practices and even not capable to prepare ready to change work force in Indian context. As these two attribute are important, so Indian organizations should make changes in their approach, system, and hardware and software so these two could be inculcated and could provide maximum benefit to the Indian organizations.

It is obvious from the study that level of e-HRM strategic attributes is not significantly different in public and private organizations except for the attributes "Standardization of HR practices", "Alignment of HR practices with business strategy"and "Strategic capability". Mean values with significant difference indicate private organizations are ahead of public organization for strategic attributes "Standardization of HR practices", "Alignment of HR practices with business strategy" and "Strategic capability".

Similarly the level of e-HRM strategic attributes is not significantly different in manufacturing/mining and services organizations except for the attributes “Employer brand”, “Ready to change workforce”, “Knowledge management” and “Strategic capability”. Mean values with significant difference are high in service sector than manufacturing/ mining sector.

Research statistics shows that there exit organization wise differences in mean values of strategic attributes, so it can be said that presence of strategic attributes are not uniform in Indian organizations. It is evident from research statistics there exist an association between all the strategic attributes and strategic capability.

Result indicate five attributes or independent variables “Standardization of HR practices”, “Administrative burden reduction”, “Competence of employee”, “Knowledge management”, “Alignment of HR practices with business strategy” fits in regression model and shows a significant cause and effect relationship but independent variables like “Employer brand”, “Ready to change workforce, had been omitted. “Employer brand”, “Ready to change workforce” were not good predictors for dependent variable strategic capability. Out of seven parameters five have significant impact on strategic capability.

HR function cannot become strategic just by digitization of HR function but it has to be reengineered and aligned with strategies of the organization, then skillful application of information technology can pay dividends. HR Professionals has to take note of this aspect of HR function. The hallmark of e-HRM decentralization, harmonization and standardization should be taken into account while developing e-HRM architecture. Culture and language can be an impediment for multinational company.

E- HRM is seen as an important source of strategic capability building. E- HRM is supposed to shift focus of HR function from employee welfare to strategic contributor by reorienting human capital, social capital, organizational capital, intellectual capital and be facilitator of knowledge management, and at the end provider of competitive edge to the organization. Now the responsibility lies with the implementer of e-HRM to make it capable in providing strategic edge, otherwise it will become just a management fad. E-HRM tools, mechanism, system, process should be so designed

that it should be compatible with the hardware and software of the organization. There must be change in approach of the end users and e-HRM must be treated as a competence of the organization.

6.4 Conclusions and Recommendations of Financial Contribution

Result shows that present level of financial attributes is above test value; hence it becomes evident that all the financial attributes are present in Indian organizations. Study reveals that level of financial attributes is not significantly different in public and private organizations except for the attributes "HR professional head count reduction", "Duplication of work", "Cycle time of HR function". Mean values indicate private organizations are ahead of public organization for financial attributes having significant difference. Similarly the level of e-HRM attributes is not significantly different in manufacturing/mining and services organizations except for the attributes "Output of HR function", "Duplication of work" and "Financial contribution". Mean value of financial attributes is more in services sector than manufacturing/mining sector with attributes having significant difference.

Research statistics shows that organization wise mean values of financial attributes is significantly different, so it can be said that presence of financial attributes are not uniform in Indian organizations. Further it is obvious from the study that CIL is laggard as mean value is almost at lowest for all the financial attributes when compared to other organizations. It is evident there is a significant association between all the financial attributes and financial contribution.

Result indicate seven attributes or independent variables (HR Head count reduction, Administrative & operational cost reduction, Increased output of HR, Quality improvement, Duplication of work, Cycle time of HR function) fits in regression model and shows a significant cause and effect relationship but independent variables like "Outsourcing cost" was omitted. Outsourcing cost was not good predictor for dependent variable financial contribution. It is obvious that each attribute has not same impact. Out of eight parameters seven have significant impact on financial contribution. Out of seven attributes having significant impact on financial contribution "Stationery material cost reduction" is showing a negative coefficient, reflecting cost of other

stationery and computer peripherals like **cartage**, CD, pen drive and A-4 paper are more than the traditional pen and paper.

It is recommended to architects of e-HRM, while formulating the framework of e-HRM and developing hardware and software due attention should be given to the attributes of financial contributions and every effort should be made to make HR function efficient without compromising its effectiveness. Some time due to faulty selection of software, hardware and lack of training to end user doesn't provide the required result and only aggravates the situation. Organizations should also measure the investment cost, return on investment, payback period but in most of cases it is difficult as digitization of HRM function is not a standalone activity and it's very difficult to measure the return in quantitative term or rupees term. Organizations should take periodic review and feedback from end users and incorporate the suggestions in the system.

Literature review reveals HR outsourcing industry in India is not in healthy stage because authorities and business are unable to resolve matters of data safety and confidentiality. The Indian government should draft a data protection law so that these issues can be resolved.

6.5 Conclusions and Recommendations of Stakeholder's Satisfaction

Result shows that present mean value of satisfaction attributes is above test value; hence, it becomes evident that in electronic form of HRM all the characteristics or attributes are present in Indian organizations. Literature review shows that technology acceptance model into electronic human resource management studies has resulted in impression that the utilization of electronic human resource management by the workforce is highly decided by level of utility of e-HRM than easiness to use.

This research reveals that level of electronic human resource management attributes of satisfaction is not significantly different in public and private organizations except for the attributes "Improves transparency", "Internal communication". Mean value of satisfaction attributes for "Improves transparency"," Internal communication" is more in public sector than private sector. Similarly the level of e-HRM attributes of satisfaction is not significantly different in manufacturing/mining and

services organizations except for the attributes “Easy to use”, “Useful to use”, “Easy to access”, “Empowers personnel” and “Improves transparency”, “Improves satisfaction”. Mean value of satisfaction attributes is more in services sector than manufacturing/mining sector.

Research statistics shows that for satisfaction attributes “Role clarity”, “Reduces HR dependence”, there is no difference among Indian organizations but for rest of attributes there is difference in mean values, so it can be said that presence of satisfaction attributes uniform for few but for most of attributes there is no uniformity.

In case of demographic variable “Qualification” there is significant difference for attribute “Easy to use”, “Useful to use”, “Easy to Access”, “Empowerment of personnel”, “Improves transparency” and “Reduces HR dependence”. It is obvious higher the education level easier to use e-HRM but for the employee those who are less educated/ IT illiterate, may be less comfortable in using e-HRM. Proper training and awareness programme should be conducted specially for less IT literate employee. In case of demographic variable “Position” there is no significant difference in attributes. It shows e-HRM is more universal and uniform there is hardly any issue of position. In case of demographic variable “Area” there is no difference in attribute “24*7 (flexibility)”, “Role clarity and “Reduces HR dependence” and for rest there is significant difference. Two main functional areas responsible for implementing e-HRM are information technology and human resource management. For these two areas and other areas there is always chance of having difference in perception.

In case of demographic variable “Experience” there is significant difference for attribute “24*7(flexibility)”, “Easy to Access”, “Empowerment of personnel”, “Improves transparency”, “Role clarity”, “Internal communication”, “Stakeholders satisfaction”. In case of demographic variable “Gender” there is significant difference for the attribute “Easy to use” for rest of the attribute there no difference between male and female. Finding shows female employee is more comfortable with e-HRM as female are mostly employed in services sector and supposed to be more knowledgeable. In case of demographic variable “Age” there is significant difference for the attribute “24*7 (flexibility)”, “Empowerment of personnel”, “Improves transparency”, “Role clarity”, Internal communication, for rest of the attribute there no difference due to age. Research

statistics shows there exist a significant relationship between all the satisfaction attributes and internal stakeholder satisfaction.

After analysis only seven attribute or independent variables "Useful to use", "24*7 flexibility", "Empowers personnel", "Improves transparency" "Internal communication", "Reduces dependence", "Decision support system" fits in regression model and shows a significant cause and effect relationship but independent variables like "Easy to use", "Easy to access" and "Role clarity" were omitted as per regression analysis. These variables were not good predictor for dependent variable "improves stakeholder's satisfaction" It is obvious that each attribute of e-HRM have not same impact.

As only seven attributes have significant impact on internal stakeholder's satisfaction, therefore it is recommended to architects of e-HRM, while formulating the framework of e-HRM and developing content, process and mechanism these attributes should not only be inculcated but also there should be some special provisions to enhance presence of these attributes. Independent variable which has been omitted in the model may be due to some lacunae in delivery which has got to be verified and accordingly corrected. Some time due to faulty selection of software, hardware and lack of training to end user only aggravates the situation. Organizations should take periodic review and feedback from end user and incorporate the suggestions in the system.

Assurance of safety and secrecy of entered facts and figures are of great concern for the workforce. If employees and line managers are skeptical of the security of data and not comfortable, hesitant to share personal data, in that case it is duty of the top management to ensure that there will no misuses of data, so concerned parties feel secure. In few cases there is lot of information on HR intranet or information overkill. Sometime employees get confused and have to spend lot of time on web-based HR tools. They are unable to differentiate between do's and don'ts. There must be some mechanism to ensure only relevant information get posted. Call center or IVR assistance must be provided to ensure doubts get cleared.

CHAPTER-7

IMPLICATIONS, LIMITATIONS, AND SCOPE OF FURTHER STUDY

This study has provided findings that have managerial implications on service provided by HR professionals, their own future, and the way new innovations will have impact on service delivery, process and mechanism of human resource department. Managerial implications are also significant for line managers and those who avail human resource services. The managerial implication offers platform and creates environment for future research. Cost constrains, time constrains, constrain due to nature of research undertaken, imposes limitations on the study which has been mentioned.

7.1 Managerial implications

* E-HRM has significant impact on internal stakeholder satisfaction and there is always chance of further increase in availing e- HRM services in digital platform and organization may further dehumanize the HR function and there will sea change in thinking of line managers regarding HR function. Line managers some time may be happy for having first hand information and some time may complain of extra burden.

* HR function is likely to be more process, IT oriented and lacking human touch, posing a big challenge for HR as a function. HR managers will show more willingness in acquiring hard IT skill rather than gaining soft man management skill.

* Sometime to safeguard interest and presence, HR managers may put hindrance in digitization of HRM function. Further all the HR issues cannot be mechanized and has to be resolved with case to case basis where HR managers have to take a leaf out of their cap and look beyond electronic solutions.

* Application of e-HRM will provide equal employment opportunity to external as well as internal stakeholder as recruitment information will shared by all and HR professionals will be free from the allegation of partiality and nepotism.

* With improved transparency and empowerment, the role of HR as middleman has reduced, sometime sense of insecurity and neglect may crop up in the mind of HR professionals. HR professionals have to accept the fact and have to work for higher order needs of the organization.

* Globalization cannot succeed unless companies adopt a global business strategy. This is possible only when companies are technology savvy and their HR department capable to sail in IT enabled superhighway and can support a globalized workforce. The rapid expansion of IT such as LAN, MAN,WAN, corporate intranets, portal, e-mail, videoconferencing, social networking sites are the hallmark of lean and mean flat networked company. If an organization want to be global then there HR function must have the support of technology, i.e. tools of e-HRM must be included while delivering the services.

* A lot of discussion has been made related to digitization of HR function leading to dehumanization of HR function. Almost all the services being delivered on digital platform, HR function is more IT centric rather than people centric, hence putting a limitation on HR executive's role. Now they may be supposed to play secondary role and be facilitator of IT function in delivering HR services. In some cases at the highest level HR professionals are just supposed to formulate HR framework, policy and strategy and all other activities being automated.

* With networking of computers and virtualization of HRM department, HR practitioners are having a digital career as there is reduction in cost of technology and automation of process and work from home culture. So HR practitioners have lot of challenges and opportunities. These professionals will be tested on several parameters and to survive and excel have to deliver gold.

* Generation Y are knowledge workers and more technology savvy, there could be hardly any resistance from internal stakeholders and HR department can adhere to its mission and go for digitization. Now demand of the day is to provide services on mobile/ Smartphone platform.

* Social networking or web2.0 technology has already entered in some organizations for providing and solving HR related services and issues, So HR professional and line managers should be ready for it and any other major changes.

* Overall it can be said e-HRM as an instrument in the hand of HR professionals can remove almost all the work related issue and can be strategic enabler, financial contributor, stakeholder satisfier if implemented with right approach and spirit. So whole responsibility is with managers if e-HRM doesn't succeed they cannot blame e-HRM system, if they do then people will use proverb "A bad workman quarrels with his tools".

7.2 Barriers and Limitations

* One of the major constraints of this research is absence of empirical research in Indian context with exclusive studies that investigate impact of e-HRM in term of strategic contribution, financial contribution, and internal stakeholder's satisfaction.

* The data collection needed lot of effort as respondents were the employees of the select Indian public and private organisations.

* Some of the employees were even sceptical of purpose of the study. In some cases researcher has to clarify and persuade the respondents. In some cases especially at operative level the researcher has to explain different queries of e-HRM.

* The study had selected eight organizations as sample organization so its result cannot be blindly generalized to all other organizations. Contextual analysis is important before implementing the results.

* Generalizing out of framework in case to relatively minor organizations, some other areas and segments, marginal divisions of the organization, or some different part of the universe, should be made with vigilance and prudence.

* This study had utilized non- probability sampling. Sample organizations had been selected based on judgment sampling and participants (respondents) were selected based on convenience sampling technique.

* Extracting information related to relevant HR practices or application of ICT for HR services, was hard nut to crack as some employees were unwilling to share as they were bound by code of conduct and were not supposed to disclose office/ business secrets. In this research queries were general so there was hardly any issue of defying service code of conduct.

* One of the limitations of the study it had not taken implementation and operational cost in account while discussing financial matters. Digitization of HRM function is not a standalone activity, in most of the organization and it's very difficult to measure implementation and operating cost in quantitative term.

* One of the limitations of this research is perception based study. Respondent's opinion has been measured. It has been assumed that the employees have provided the correct response.

7.3 Scope of further study

* Present research paves the way of further research which can be based on factors responsible for level of electronic human resource management and ways to increase the level of electronic human resource management.

* Research can be based on why all e-HRM tools are not being used in Indian organizations. What is the significance of social networking or web 2.0 technologies in HR function? As smart phone is high in use in recent times how e-HRM services can be made user-friendly on mobile.

* Research can be based on if most of the organizations of a particular industry implements e-HRM, then whether e-HRM will remain strategic edge enabler or not.

* Further research can be based on value for money, payback period, and return on investment.

* Upcoming research can be based on change in satisfaction level based on pre e-HRM implementation and post e-HRM implementation.

For an Indian organization or any other organization in the world, e-HRM can make HR function more proactive rather than reactive, transforming the function from bureaucratic approach to market approach and a final destination to clan approach. It can be a pull factor rather than a push factor for all stakeholders who are availing HR services**.** Information and communication systems are supposed to be panacea to all the changes and hurdles posed by the system in which business function. To be effective and efficient information system need to have a thought of the people, organization, and the environment in which business operates. Electronic human resource management is an integral system of business organizations and has in built risk. It is obvious HR executives to get acquainted with the ICT first before then others to follow.

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CHAPTER - 1

INTRODUCTION

1.1 Paradigm Shift- The ongoing diffusion of information and communication technology (ICT) in all facets of business is leading to multidimensional and often unpredictable changes and advancements. Except manufacturing and operations most of the functions of the organization is performed with the click of mouse and latest evolution touch screen, thus the business and its employee in present confront numerous tests and prospects that grow due to complex nature of work and unending changes taking place in the domain of work. Major challenges include, frequent change in business cycle, rapid change in work technology, unification of world economy, wireless communication, e-business, economic restructuring and new code of employment. One of the largest breakthroughs in the work arena is automation, modernisation, digitisation of the work and nearly steady scientific progress, with a specific shift in the direction of the deployment of scientifically modern techniques of accomplishment of different functions and jobs, hence human resource (HR) function of an organization cannot remain aloof and secluded and same pattern has got to be followed for human resource management practices, henceforth fresh, vibrant methods of administration of human resources are sought after every day. This has more impetus as different stakeholders are hungry of information and need customised information in 24*7mode at their finger tips.

ICT has led to swift expansion of e-business and still upcoming as a big thrust, as a result human resource and HR professionals are confronted with the different tests and problems of delivering in directions in the streak with the organizational trade. Human resource function can become a valuable associate in delivering accomplishments; however for deliverance it needs alter its spotlight, its position, along with its service delivery mechanism. HRM has to function parallel of being proactive and reactive simultaneously in reply to the continuous varying commercial background and this is rife in the way that personnel function both within and outside the organisation is being conducted. New vibrant, flexible and adaptable way of managing HR issues policies and practices are being sought after and HR service delivery in electronic form is the solution of above mentioned issues. Paradigm shift in business environment nationally and

internationally is having significant impact on internal business environment of Indian organisations and consequently have an impact on personnel function being delivered.

1.2 E-HRM "The Technology"- ICT is one of major breakthrough in personnel function by reorganization and reorientation of process, mechanism and system as a whole not only in the name of digitization and automation of services but also the services are being accessed by different stakeholders at different point and mode. Most of progressive establishments are set with different type of mechanism which facilitates in deliverance of HR services in digital platform.

E-HRM has made few buzzwords like automation, transparency, empowerment, paperless office, least human interference a reality and is considered the panacea for all the ills of workplace. Technology has led a major transformation in the providing and accessing of personnel provisions in the organisations. This is quite evident by way of human resource facilities and programs both internally and externally in the establishment is being executed and delivered**.** There is a wide practice by HR staff in organization to activate e-HRM tools to execute responsibilities on digital base by e-personnel data management, e-administration, e-work design , e-personnel planning, e-recruitment, e-selection, e-learning and training, virtual performance appraisal , e-salary and benefit administration, e-times office, and e-compliance reporting resulting in stakeholders are likely to receive HR services in a lesser amount by physical presence and pen and paper mode and consumes operational, monotonous, regular operational services by active involvement in ICT enabled platform with personnel staff or outside merchants via phones, mobile, world wide web and other wireless devices.

1.3 E -HRM "Continuum"- The role of HR function in few organizations are only limited to elementary HR interventions, day to day activities, time and labor management, salary and personal data administration, often named as operational (transactional) HRM. Organizations with sound and healthy HR function, having most of prevalent and relevant HR functions from hiring to retiring including all the life events of employee fully functional and duly focused HR department termed it as relational (traditional) HRM. Some of organizations have faith in employer brand, change management, knowledge management, enabling strategic capability to

HR function named as transformational HRM. Three level of HR function has been identified but extent to its digitization varies from organization to organization. In an organization HR function may be at highest level i.e. transformational level but application of electronic tools may be limited to operational or relational level.

Three main forms of e-HRM, operational, relational, and transformational are exceptionally and intimately linked to the technique in which personnel function progress inside the establishment. For the operational type of e-HRM, HRM activities that were offered face-to-face now are being offered through web-based technology. For relational e-HRM, most of HRM functions will have a support of internet technology rather using pen and paper. Transformational e-HRM creates workforce capable to face any challenges and willing to change as per requirement with a aim to talent management and employer brand building through an incorporated and interlinked set of software and hardware tools thus compatible with strategic choice of the business.. Different levels of e-HRM differ from organisation to organisation. Some of the organisations would use technology for initial level i.e. operation and others using technology to the advanced level named as transformational e-HRM and a part of the organisation in between at the relational level.

1.4 E-HRM "The Care Taker"- Present time business has lots of stakeholders but internal stakeholder i.e. employees are the most important as they are the deciding factor and determine the direction and level of the business especially in knowledge economy where services are high in demand. Higher satisfaction level of employee doesn't guarantee high level of performance but desirable to remain competitive in business. Some organizations proactively and few with the rapid development of e-commerce and significant rise in virtual, networked organizations has compelled HR professionals to sail in digital world and offer services on electronic platform resulting in emergence of electronic human resource (e-HRM). E-HRM is integration of information and communication technology (ICT) and HR mechanism, content, process to provide services to different stakeholders and simultaneously providing competitive edge to the organization.

At the same time workforce, the most important asset of any organization becomes liability if they are not provided prerequisite attribute of satisfaction to align with corporate goals and visions. In any business there are three basic resources used as input are physical resource, financial resource and human resource. Out all these three resources human resource is most important and valuable as business result or top-line and bottom-line growth of an organization depends on human resource who handle the organization. All other resources can be imitated but human resource cannot be imitated and one cannot have a replica or duplicate copy of employees as workforce of an organization is unique. Physical and financial resources are insignificant when compared with human resource.

In modern times there is complete dearth of competent, knowledgeable and skillful employees, so workforce become as significant as clients, so employee satisfaction and customer satisfaction are equally important for any organization as keeping workforce motivated to deliver gold is very challenging. So HR has to play a major role and delivering services in digital or electronic platform is a big game changer. It is therefore expected that the adoption of e-HRM technologies is driven by need for client service improvements. Empowerment of employees in availing HR services is a one of substantial breakthrough in HRM to navigate it to higher levels. The way HR services offered in an organization must be easy to access, easy to use and simultaneously useful to use. HR service delivery should facilitate role clarity, internal communication, and must act as a decision support system. Manpower satisfaction level increases if there is flexibility and transparency in HR service delivery.

Traditional HRM is paper consuming, time consuming and people centric where e-HRM is application of IT systems, interactive electronic media, and telecommunication networks to carry out the functions of the human resources management department. E-HRM managers always strive to provide a seamless integration of all HRM services with a common goal of internal stakeholder's satisfaction. E-HRM is an internet-based elucidation that extracts benefit of the most up-to-date web application technical know-how to bring an online real-time human resource management solution. E-HRM is use of ICT for human resource function which facilitates easy interface among different stakeholders of the business. It compiles information about life events of employee and reduces cycle time and consumption of paper considerably and

permits trouble-free entrée of huge amount of data and information. Workforce may track their career path and achievements automatically without human intervention. It may be used for execution of diverse HR process in an establishment. Properly managed e-HRM act as a communication tool which is flexible (24*7), anywhere anyplace, accurate, integrated, completely aimed to suitable or needful consumer, and bundled in a package to be well understood by service recipient.

Through e-HRM workforce or teams may contribute and persuade, over HR function from top level radical pronouncements to regular monotonous provisions by giving feedback and suggestions**.** Empowerment is about workforce involvement by way of augmented assignment of duty down the chain of command, which is facilitated by e-HRM application. At the same time not providing routine monotonous tasks in self service mode may be a major lacuna on the personnel function having no spare moment to think and do something different. Instead of HR executives handling everyday routine tasks such as leave application, change in personal information, salary slip, tax deduction can be managed by the personnel themselves or their head of the department**.** E-HRM imbibes a system of transparency and minimizes or eliminates involvement of personnel staff, permitting executives and staffs to execute HR chores straight with self service applications**,** hence inculcating the sense of empowerment. The use of web-based technologies for human resource management practices and policies is maturing within business lifecycle and facilitating transparency. It is important for each member to understand their role, the role overlapping and every possible step has to be taken to minimize role ambiguity. The application of e-HRM has the outcome that precise human resources activities are delegated to managers and employees and thus the execution of e-HRM have an impact on the sharing out of HR tasks. The organizations overall strategy has an influence on the division of the responsibilities however link provided and channel of communication assigned somehow facilitates division of authority and responsibilities between managers, employees and HR professionals hence role clarity**.**

1.5 E-HRM "The Business Partner"- There could be differences on several or almost all the issues but there is unanimity among the entire management practitioner that people are the only key competitive advantage of any organization. This clearly indicates the HR function

responsible for the same has to tighten belts by reengineering or reinventing the service delivery of HR function in electronic platform so that it can align HR policies, mechanism, process, and practices with business strategy of the organization. Electronic human resource management as a true business partner, must be able to increase organization's strategic capability by employing a shared mind-set and accountability to key performance indicators by standardizing its service delivery, reducing the administrative burden of HR professionals, improving employer brand image, creating ready to change workforce, increasing competence of employee, and supporting knowledge management . E-HRM is always on radar and examined whether it can succeed to change the outlook of HR function from reactive to proactive, cost centre to bottom line contributor, facilitator to business partner, transactional to transformational or strategic**.**

E- HRM is taken as an important source of strategic capability building. E- HRM is supposed to shift focus of HR function from employee welfare to strategic contributor by reorienting intellectual capital of the organization and be a facilitator of knowledge management and at the end provide strategic edge to the establishment. Its attributes, tools, mechanism, system is a big game changer and pathfinder in providing strategic capability to the HR function. E-HRM facilitates in better serving and management of every institution's most important strategic capability builder, innovator, thinker, server of client- employee**.** Digitization of HR function gets rid of redundant actions, presents more precise and timely human resources information and – perhaps most important – automates the time killing, fault prone human resource paper story. It leaves human resource professionals with more time to focus on strategic tasks and manage in best possible way the company's most important resource- its people. Technological change is a key driver for HR transformation, providing the foundation to support HR's growing strategic focus. Especially, network and internet technologies have already given employees direct contact to each other, to HR, and to business information with such ease and intelligence that every worker can contribute more directly to business results. It is seen that there is a radical change in human resource management function and there is transition from a secretarial, maintenance, utility department to the core of strategic orientation and the application of technical knowhow is one of the main ingredient of this massive change. Budding technical knowhow has resulted in new scope in the direction of human resource by means of formation of virtual staff, dropping

levels of hierarchy and rewriting the position of human resource as strategic associate in the age of information system. Establishments associating human resource function along with the other functions like marketing, finance, operations, information technology of company have the prospective to add useful value to the strategic assimilation of human resource function with establishment's overall strategy. E-HRM technology is harbinger of knowledge management and creates positive organizational culture and high performance systems. Knowledge management is supposed to be biggest wealth creator and it may be explicit or implicit inside the establishment or outside the establishment, if it s utilized in proper way can deliver gold both for the organization and individual employee. Information and communication technology is supposed to be facilitator of knowledge exchange and has been largely automated through latest internet and web technology. Now a day's lot of organization has initiated to clinch human resource automation and computerization as it has widespread benefit to the organization. E-HRM not only automates the HR function but provides lot of leverage to the business by being effective and efficient.

E-HRM is the in reality a strategic plan to outshine the business in the computerization era, by interlinking HR function along the organizational strategy of the establishment and create congruence between business strategy and human resource policies which jointly enhance the attainment of bottom line, competitiveness and performance. Strategic HRM helps the organization to achieve strategic fit with its market environment. E-HRM facilitates HR function in liberating itself from daily operational, monotonous requirements and making it more in tune with the decision making, understanding of the employees, preparing change ready workforce. E-HRM is a big contributor and facilitator in employer brand building**.** As a strategic facilitator e-HRM standardizes the service delivery, reduces administrative burden, and improves the competence of the employee Alignment of HR policies/ practices with business strategy of the organization is one of the major characteristics of e-HRM. E-HRM attributes, tools, mechanism, system is a big game changer and pathfinder in providing strategic capability to HRM function if implemented properly.

1.6 E-HRM "Bottom Line Contributor"- There is a common opinion that HR function in nearly all the business are cost centre rather than the profit centre and in most cases measured as

the operating cost. In present business scenario organizations are facing multipronged competition especially in terms of financial matters. Success of any organization is basically measured on top line and bottom line growth and at the same time forced to provide goods and services at lowest possible price to remain competitive and some time to have an edge. In most of the organization by nature revenue generation is limited to marketing, operation or finance function. In this piquant situation HR function cannot remain silent spectator and have to deliver financially. A function can contribute financially either by revenue generation or by cost reduction/ avoidance. The only option left to HR function to contribute financially, is cost reduction or avoidance. For HR professionals there is an obvious choice that is in form of e-HRM which is considered resource saving tool, if implemented and used properly, will save costs, time and money by streamlining the work and cutting down on time taken to perform different functions. Cost reduction by e-HRM can be done by HR headcount reduction, stationery material cost reduction, outsourcing cost reduction, reduction in HR transaction cost and reduction in cycle times of HR activities.

Cost cutting is a key force in any strategy whether it is cost, differentiation or focus. For an organization following cost as unique selling proposition (USP), cost control is of highest importance but for an organization even pursuing a differentiation, innovation or focus strategy, cost reduction or control is desirable. Cost reduction is the most substantial consequent from e-HRM because it refers to real benefit that pour straight to the profit margin. It typically forms the basis for the business case and is the most tangible form of benefit, mostly appearing as a direct financial contribution. E-HRM enhances the productivity of HR professional as they are not supposed to do overlapping pen and paper based jobs and in most of cases normal, routine, monotonous work can be done by employee through self service application (SSA). The HR executives are supposed to perform core or strategic HR activity and be a facilitator to different stakeholders like employees, professionals, legal specialists and controllers who use these services. In this way output of HR professionals increases as they have spare time to see out of the box and be strategic partner of the business. Relevance of the internet to the HR function (e-HR) combines two fundamentals: one is digital platform while the other is the vigorous involvement of workforce in the development. These fundamentals force the technology that

helps business reduce administrative cost, enhances employee interaction and satisfaction; make available immediate access to information while at the same time lowering dispensation time.

Managerial aim for e-HRM include decrease in cost through reorganization of HRM maneuvers improved efficiency and effectiveness through providing better deliverance of HRM services. Different e-HRM instruments and tools adopted by organizations facilitate the organization in achieving financial as well as stakeholder's goals. E-HRM provides HR services on digital platform and use of interactive voice response (IVR), e-mail, internet, intranet, extranet, ESS, web portal and other tools resulting in reduction in postage, paper and stationery material requirement and manpower required to carry the file from one table to other. With reduction in paper consumption, storage space and cupboards required to store old files and records minimized as these files and records are stored in computer hardware. E-HRM facilitates automation of HR transactions resulting in mutation of entries, reduction in duplication work, less chances of human error hence quality improvement saving. Lot of activities which were earlier out sourced, now e-HRM empower employee and provide the platform of self service and can be performed by employee themselves and at the end reduction in outsourcing cost. E-HRM streamlines the flow of task and reduces backtracking and task can be performed in assembly line production system resulting in reduction in unnecessary delay and cycle time. Every facility requires initial investment and day to day operational cost. In most of the organization digitization of HR function is not a standalone activity so it's very difficult to calculate. Calculation of payback period or return on investment is similarly a very tedious and complex task as benefits of e-HRM is mostly qualitative in nature very difficult to quantify in monetary terms.

CHAPTER-2

LITERATURE REVIEW

With the idea of research in human resource management and finalization of area, electronic human resource management (e-HRM), the next step was review of literature for having a basic framework for formulation of possible constructs. E-HRM literature review is the most important aspect of the research as it provides the base and assesses the information and work done by predecessors in this area, thus identifying the research gap. The focal point of this literature review is to recapitulate and amalgamate the arguments and ideas of other researchers about e-HRM. Since evolution of e- HRM as a research topic, lot of researcher has contributed in this field. Present study has classified and compiled the related literature with a specific heading so that literature review is logical and meaning could be derived out of it.

2.1 E-HRM Domain- According to Broderick and Boudreau (1992) "human resource information systems (HRIS) as the combination of data centric computer applications and hardware and software that are required to compile, document, store, manage, deliver, present and contrive data for human resources". Lepak and Snell (1998) used the wording, "virtual HR" to express a network-supported arrangement built on partnerships and mediated by information technologies to help the institution, obtain, develop, and set up intellectual capital.

Wright and Dyer (2000) propagate most important motive of development of e-HRM is e-business. According to them e-business is upcoming and as a result HR and HR practitioners are faced with the challenge of delivering in ways that are in line with the business. In their opinion, HR functions become decisive partners in driving success, but to do so needs that HR alters its focus, its role, and its delivery systems, thus in e-business, the application of intranet technology for HR is unavoidable. In the opinion of Noel, et al. (2000), electronic human resource management (e-HRM) implies processing and communication of digitized information used in HRM, together with text, audio, video, visual images, from one computer to a different electronic appliance. Workforce does not have to be in the same geographic location to work collectively.

As per Gowan Mary (2001) *"*electronic human resource management system (e-HRM System) is a net-based solution that takes benefit of the latest internet technology to perform an online real-time human resource management solution and it is all-inclusive but easy to use, full of latest features, yet flexible enough to be customized to one's specific necessitates". As per Walker (2001), the term e-HRM is widely used but a unanimously accepted definition is still undecided. It is over and over again used tantamount with like terms such as web-based human resources. E-HRM is also seen as a compilation of facts, principles and best-practice approaches to effective human resource management. Adam and Van Berg (2001) states, e-HRM is using web-based technologies (internet, intranet, extranet, portal) for the best of human resource management that reduces the administrative work, gives the chance to workers to plan their career dynamically, giving the management the prospect to take well founded resolutions and improving the effectiveness and efficiency.

Kovach, et al. (2002) define e-HRM as web-technology-based conduit; offer the managers and the workforce of the organization with information as well with the capability to finish HR-related transactions. As per Watson Wyatt Research Report (2002), e-HR implies the broad access to human resources data, instruments and operations available directly on the web in most offices today. It illustrates the "net effect" of the outburst in web technologies and the striking impact this growth has had on the way workforce now obtain employment-related information via integrated self-service applications. It also contains amalgamation of new technologies available that help connect numerous systems, tools and databases, both within and outside the organization.

In other Watson Wyatt (2002) survey of 649 US organizations accepted the definition of business to electronics (B2E) as the application of any technical knowhow, facilitating managers and employees to have direct access to HR and other workplace services for communication, performance, reporting, team management, knowledge management, and learning in addition to administrative applications. Centred on swiftly developing web technologies, recent web-based HR practices cover a fully incorporated network of HR-related data, tools and transactions.

According to Lengnick-Hall and Moritz (2003), where HRIS were directed to help the HR experts in delivering their HR tasks, electronic HRM (e-HRM) applications are, beside directed to carry HR professionals in performing their HR tasks, and also directed to support managers and employees in completion of their HR jobs. E-HRM implies to conducting business transactions - in this case HR - using the internet.

E-HRM as defined by Kettley and Reilly (2003) "is a computerized human resource information system (CHRIS) and consists of a fully integrated, company-wide network of HR related data, information, services, databases, tools and transactions and such a system can be described as e-HR, meaning the use of traditional, web and voice technologies to develop the HR administration, transactions and process deliverance". According to Hendrickson (2003), as within other organizational functions, information technology has become a significant process for supporting the processes of the HR function and the HR function is now closing the gap in terms of applying new IT capabilities to traditional functions.

As per Bulmash, J. (2004), human resource technology can be elaborated as any technical knowhow that is used to attract , recruit, retain, and maintain human resources, facilitate HR administration, and optimize HRM. This expertise can be used in various types of human resource information systems (HRIS) and by different stakeholders, such as executives, operates, and HR professionals. As per Bondarouk, T. et.al. (2004), tentatively "e-HRM as an approach of executing human resource management (HRM) strategies, policies and practices in establishments through a deliberate and directed support of, and/or with the full use of, web-technology based channel". Bondarouk and Ruel, (2006) expanded this definition in later work to include the communication component of e-HRM, where employee and employers, through e-HRM, are able to communicate about HR content more effectively According to latest definition, Bondarouk and Ruel, (2009), e-HRM as an umbrella term encompassing all possible integration mechanisms and contents between HRM and information technologies, intending at creating value within and across organization for targeted workforce and management.

Van den Bos and Van deer heijdeen (2005) states electronic human resource management system (e-HRM) is to facilitate human resource management through application of web technology. According to Uman ID (2006) electronic human resource management system (e-HRM) is revamp and automation procedure by which the HRM function can pay attention on delivering value to the business. It is a perception through which HR information and process support self-service mode of service delivery, and is made accessible over the internet or intranet so that workforce can utilize and inform. Strohmeier (2007) states, e-HRM is the planning, execution and implementation of information technology for both networking and supporting at least two people or unified actors in their shared performing of HR actions. According to Voermans and Veldhoven (2007), e-HRM could be intently defined as the administrative support of the HR department in business by using internet technology, but also emphasise the significance of understanding that the beginning of e-HRM may lead to alteration in fact and positioning of the HR function.

As per Olivas-Lujan et al. (2007) e-HRM is not a totally fresh thought and has been in application since the early 1990s when the thought of e-commerce swept across the organisation. According to Shane (2009) electronic human resource management system (e-HRM) is seen as the connection between human resource management and information technology. It combines HRM as a discipline and in particular it's basic HR activities and processes with the information technology function. According to Varma (2010), in cases where a business deliberately and in a focused way prefers to put in place web technology for HRM purpose, based upon the thought that management and workforce should cooperate and play an active role in delivering out HR work, we can have a thought of e-HRM

Table -2.1: Defining e-HRM

Author	Year	Definition
Broderick and Boudreau	1992	Human resource information systems (HRIS) as the combination of data centric computer applications and hardware and software that are required to compile, documentation, store, manage, deliver, present and contrive data for human resources.
Lepak & Snell	1998	Virtual HR, to express a network-supported arrangement built on partnerships and mediated by information technologies to help the institution, obtain, develop, and set up intellectual capital
Noe, Gerhard and Wright	2000	Electronic human resource management (e-HRM) implies processing and communication of digitized information used in HRM, together with text, audio, video, visual images, from one computer to a different electronic appliance.
Adam & van den Berg	2001	E-HRM is using web-based technologies (internet, intranet, extranet, portal) for the best of human resource management that reduces the administrative work, gives the chance to workers to plan their career dynamically, giving the management the prospect to take well founded resolutions and improving the effectiveness and efficiency.
Mary Gowan	2001	Electronic human resource management system (e-HRM System) as a net-based solution that takes benefit of the latest internet technology to perform an online real-time human resource management solution.
Walker,	2001	E-HRM is widely used but a unanimously accepted definition is still undecided. It is over and over again used tantamount with like terms such as web-based human resources. E-HRM is also seen as a compilation of facts, principles and best-practice approaches to effective human resource management
Watson Wyatt	2002	E-HR implies the broad access to human resources data, instruments and operations available directly on the web in most offices today. It illustrates the "net effect" of the outburst in web technologies and the striking impact this growth has had on the way workforce now obtain employment-related information via integrated self-service applications.
Watson Wyatt	2002a	Application of any technical knowhow facilitates managers and employees to have direct access to HR and other workplace services for communication, performance, reporting, team management, knowledge management, and learning in addition to administrative applications.
Kovach, Fagan, and Magitte	2002	Define e-HRM as web-technology-based conduit; offer the managers and the workforce of the organization with information as well with the capability to finish HR-related transactions
Kettley P and Reilly P	2003	E-HRM as defined by is a computerized human resource information system (CHRIS) and consists of a fully integrated, company-wide network of HR related data, information, services, databases, tools and transactions. Such a system can be described as e-HR, meaning the use of traditional, web and voice technologies to develop the HR administration, transactions and process deliverance.

Author	Year	Definition
Lengnick-Hall and Moritz	2003	Where HRIS were directed to help the HR experts in delivering their HR tasks, electronic HRM (e-HRM) applications are, beside directed to carry HR professionals in performing their HR tasks, and also directed to support managers and employees completion of their HR jobs. E-HRM implies to conducting business transactions - in this case HR - using the internet
Bulmash, J.	2004	Human resource technology can be elaborated as any technical knowhow that is used to attract, recruit, retain, and maintain human resources, facilitate HR administration, and optimize HRM.
Bondarouk & Ruël	2004	E-HRM as an approach of executing human resource management (HRM) strategies, policies and practices in establishments through a deliberate and directed support of, and/or with the full use of, web-technology based conduits
Van den Bos & van der heijdeen	2005	Electronic human resource management system (e-HRM) is to facilitate human resource management through application of web technology.
Bondarouk & Ruël	2006	E-HRM, where employee and employers, through e-HRM, are able to communicate about HR content more effectively
Uman ID	2006	Electronic human resource management system (e-HRM) is revamp and automation procedure by which the HRM function can pay attention on delivering value to the business. It is a perception through which HR information and process support self-service mode of service delivery, and is made accessible over the internet or intranet so that workforce can utilize and inform.
Strohmeier	2007	e-HRM is the planning, execution and implementation of information technology for both networking and supporting at least two people or unified actors in their shared performing of HR actions
Van Veldhoven	2007	E-HRM could be intently defined as the administrative support of the HR department in business by using internet technology, but also emphasize the significance of understanding that the beginning of e-HRM may lead to alteration in fact and positioning of the HR function.
Shane	2009	Electronic human resource management system (e-HRM) is seen as the connection between human resource management and information technology. It combines HRM as a discipline and in particular it's basic HR activities and processes with the information technology function
Bondarouk & Ruël	2009	An umbrella term encompassing all possible integration mechanisms and contents between HRM and information technologies, intending at generating value within and across the organization for targeted workforce and management.
Varma S	2010	In cases where a business deliberately and in a focused way prefers to put in place web technology for HRM purpose, based upon the thought that management and workforce should cooperate and play an active role in delivering out HR work, we can have a thought of e-HRM.

Source- Literature review by scholar

2.2 Types/Levels of e-HRM - Lepak and Snell (1998) made difference in HRM services, namely operational HRM, relational HRM and transformational HRM. Wright and Dyer (2000) made a parallel dissimilarity in service delivery of HRM services named as transactional HRM, traditional HRM, and transformational HRM. Martin et al. (2008) emphasized that e-HRM can be classified as per three perspective namely operational HRM, relational HRM and transformational HRM. Same was vindicated by Bondarouk and Ruel (2006) as well as Strohmeier (2007) and they identified different types of e-HRM and referred to them as end result. These end result included operational, relational and transformational.

Lengnick-Hall and Moritz (2003) view e-HRM development slightly differently to other authors. They purport that e-HRM develops through three main waves within an organisation. The most simplistic 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 organisation.

As per Bieasalski (2003), e- HRM offers opportunity to automate administrative HR-task and to optimize value creating HR- activities. Three levels of development can be distinguished as web-presence HR, web-enabled HR, web-energized HR. The first level "web presence" means that parts of the e-HRM-solution are present. Web-enabled means that all parts of the e-HRM solution are present and can be availed online. The third level describes more proactive e-HRM-solution that is fully implemented, can be accessed online and is used optimally by employee.

TABLE-2.2: Levels of e-HRM

Researcher	year	Level 1	Level 2	Level 3
Lepak & Snell	1998	Operational	Relational	Transformational
Wright & Dyer	2000	Transactional	Traditional	Transformational
Lengnick-Hall & Moritz	2003	Publishing	Automation	Transformation
Bieasalski	2003	Web-presence	Web-enabled	Web-energized
Bondarouk & Ruël	2006	Operational	Relational	Transformational
Strohmeier	2007	Operational	Relational	Transformational
Martin, Reddington & Alexander	2008	Operational	Relational	Transformational

Source – Literature review by scholar

From table -2.2 it is obvious that there is unanimity among the researcher regarding level of e-HRM as operational, relational and transformational, as originally conceived by Lepak and Snell (1998).

2.2.1Transactional/Operational/Web-presence HRM- As per Lepak and Snell (1998), operational human resource management is concerned with streamlining processes. It engages basic administrative HR actions such as compilation of personnel data, payroll, publishing of information, which was earlier face-to-face now, offered through web-based technology. According to Bondarouk and Ruel, **(20**06) "for operational HRM, the establishments requires to decide whether or not workforce will keep their own personal information up to date via HR website, or whether this will be done physically/manually by administrators". As per Shane (2009) the one-way communication from the organisation to its staff is characteristic of the first form of e-HRM, which engages merely publishing information. Intranets are the prime information delivery means for this and incorporate generic content such as the organisation's policies and actions and measures. This is time and again expanded to inculcate more personalised information such as vacancies. This type of e-HRM is in itself particularly valuable to establishment as it allows for more cost-effective spreading of information by cutting down on printing costs. Alteration to information can be uploaded as and when required so that users can access up-to-date, pertinent information when required.

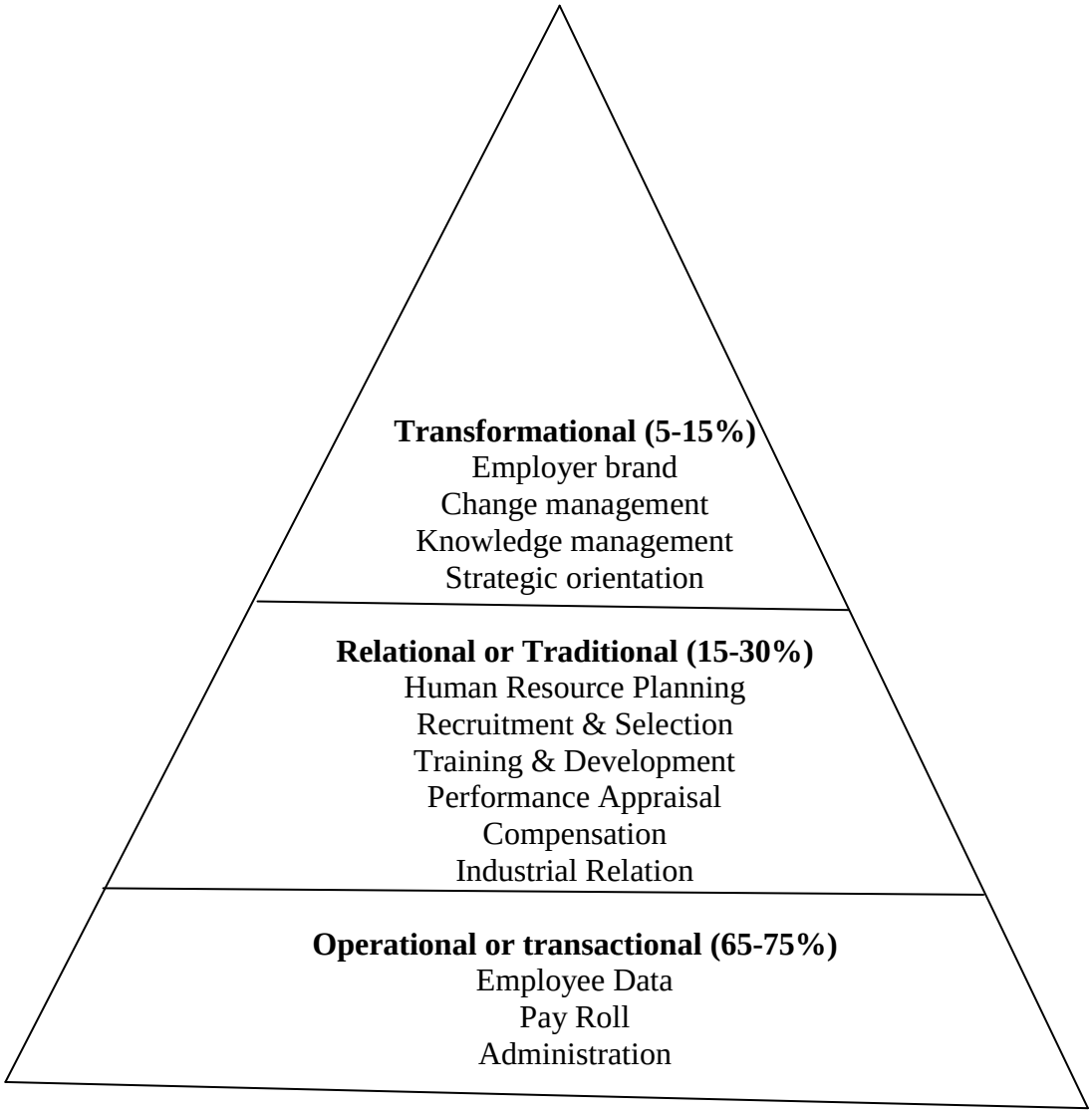
2.2.2 Traditional/Relational/Web-enabled HRM- According to Bondarouk and Ruel (2006), "with relational HRM, there is a choice of whether to perform additional intricate HR practices, like recruitment and selection using e-HRM, or to use a more conventional paper-based approach such as newspaper advertisement and paper-based application form". According to Strohmeier (2007), relational HRM concerns the interface and networking of the different HRM stakeholders. As per Lengnick-Hall & Moritz (2003), relational e-HRM also engages the automation of transactions (internet in place of pen and paper) through application of intranets and extranets, HR portals, employee self-service and manager self-service, and operates with numerous application programmes. These technologies develop relationships between users of the systems. As per Bondarouk and Ruel, (2006), the stress of relational HRM is not on the administration of HR processes, but rather on the mode in which HR tools carry basic business

processes such as performance management and recruitment and selection. The relational HRM, deals with more advanced HRM activities is viewed as the second, more complex form of e-HRM. The stress here is not on administering, but on HR instruments that support fundamental business processes such as recruiting and the selection of new staff, training, performance management and appraisal, and rewards**.**

2.2.3 Transformational / Web-energized HRM- Transformational HRM is the top-level and the most multifaceted form of HRM. According to Lengnick-Hall and Moritz, (2003), HRM shifts from a transactional to a transformational focus, whereby the human resource functions are relieved of the operational duties and redirected en route for more strategic capability. These types of job contain: strategic partnering with the business, developing centres of proficiency and administration of service centres. According to Bondarouk and Ruel (2006) "when using e-HRM for strategic, transformational purposes, it is probable to form a change-ready work force via an integrated set of web-based tools that enables the personnel to grow in line with the organisation's strategic choices".

2.2.4 Implementation Pattern of e-HRM-According to Wright and Dyer (2000), more recently, HR function has had to play a more strategic role in the business. The only way to attain this is to reduce much of the burden of transactional human resource activities. In order to free up time so that HR can focus on transformational HR activities, expansion and execution of human resource-specific information technology systems is the first step to attain this .Other options available is outsourcing some of the human resource function, but what would be more appropriate to this study, is to utilize information technology in the shape of e-HRM (see Figure -2.2). In addition to this, new systems have been developed that permit management and staff to manage much of their own human resource actions, such as leave application and approval, personal data alteration etc. Thus, e-HRM systems aid in freeing up time for the HR function so that there can be greater emphasis on high-value strategic project

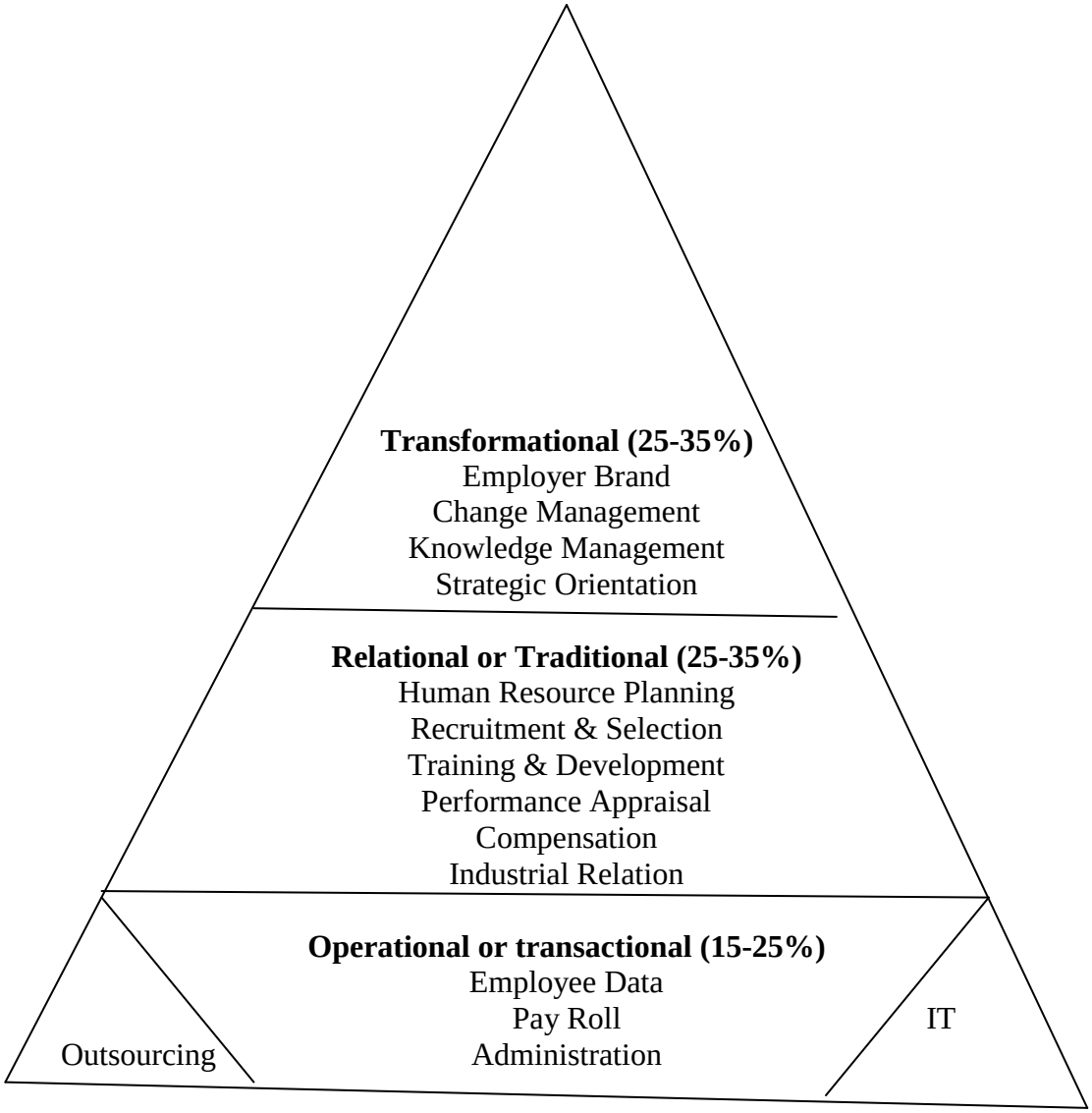
FIGURE- 2.1: Traditional Delivery of HR Services



Source- compiled by scholar

The figure 2.1 and figure 2.2 shows paradigm shift in outlook of HRM function in service delivery from traditional to strategic and time devoted in each level of HRM. From the figures it is fairly clear as HRM function moves to strategic delivery approach, it dedicates less time in operational or primitive level of HR function and maximum time on transformational or highest level. With strategic delivery approach organizations some time reengineer their HR function, opt for outsourcing, and ride on electronic platform and in most cases applies all the three options simultaneously.

FIGURE 2.2: Non Traditional Delivery of HR Services of HR Services



Source- compiled by scholar

According to Bondarouk, T. et al. (2004), "an important feature to keep in mind, is that in reality, a combination of these types of e-HRM are utilised". Actuality E-HRM growth is not a gradual process. Different levels of e-HRM execution are not a mutually exclusive activity but some time at the same time all the three levels are being implemented simultaneously. However, the authors comment that establishing a good transactional foundation is an important basis for relational e-HRM, and effective relational e-HRM should be in place for successful transformational e-HRM. According to Lengnick-Hall & Moritz (2003), while some establishment might take a developmental approach, building up from operational, to relational

to transformational e-HRM in a step-by-step manner, other organisations will make more forceful alterations, moving straight from operational e-HRM to transformational, strategic e-HRM. It seems that the first step in thriving e-HRM is ensuring that decision-makers buy into the fact that the benefits compensate the costs. As per Shane (2009), three types of e-HRM are often used concurrently. Organizations will have elements from each of the types of e-HRM, but in an ideal world, each stage should be developed incrementally, that is, a strong operational basis will enable improved relational e-HRM, which in turn will be advantageous for purposeful transformational e-HRM.

2.3 Delivery Tools/ Instruments-According to Ketlley and Reilly (2003)," technology has only recently developed in a way that enables e-HRM to make its mark, especially the introduction of corporate intranets and web-enabled HRIS and the nature of the development path, however, varies considerably from organization to organization". Kavanagh and Thite (2008) reported that to improve effectiveness and efficiency in terms of service delivery, cost reduction and value-added services, HR departments came under pressure to harness technology that was becoming cheaper and more powerful. Sanayei and Mirzaei (2008) in empirical study aim at providing an explanation of e-HRM and introducing its activities and tools, after the investigation, the effect of various independent variables such as job satisfaction, professional commitment, and organizational commitment on the effectiveness of HRM as a dependent variable. E-HRM tools such as intranet, extranet, HR portals; integrated HR suite software is rarely used, however according to expert's judgment if they are used, they would have a positive effect on HRM output in Iranian organizations. As per Florkowski and Olivas-Lujan (2006) "diffusion patterns of eight information technologies that are transforming HR service-delivery in North America and Europe are HR functional applications, integrated HR suites, IVR systems, HR intranets, employee and manager self-service applications, HR extranets, and HR portals". The overall diffusion was best characterized as an outgrowth of internal influences, fuelled primarily by contacts among members in the social system of potential adopters. Companies in the 21st century can be broadly said to have adopted at least one of the above mentioned e-HRM technologies.

Foster et al. (2004) describe that the application of the internet to the human resource function combines two elements; one is the use of electronic media while the other is the active participation of employees in the process. As per Bondarouk, T. et al. (2004) "organisations need to embrace the e-HRM revolution which relies on cutting edge information technology, ranging from internet-enabled human resources information systems (HRIS) to corporate intranets and portals". According to Biesalski (2003), e-HRM "is a web-based tool to automate and support HR processes". Kettley and Reiley (2003) states that a computerized human resource information system consists of a fully integrated, organization wide network of HR-related data, information, services, databases, tools and transactions. Technology has only recently developed in a way that enables e-HR to make its mark, especially the introduction of corporate intranets and web-enabled HRIS. According to Lengnick-Hall, and Moritz (2003), "the final stage of total digitalization' in the 1990s arrived when HR professionals and ICT specialists joined forces and developed electronic information systems that moved HR decision making from drawers to computer".

As per Watson Wyatt's (2002) survey of HR technology issues revealed that a wide variety of HR and payroll systems are being used today. According to the results of the study, web technology is the predominant method for delivering HR-related services to employees and managers, and offers significant opportunities to improve communication, knowledge sharing and HR delivery systems In the views of Wright, M. et al. (2001), "e-HRM refers to the processing and transmission of digitized information used in HRM, including text, sound and visual images, from one computer to another electronic device".

2.3.1 HR Functional Application (HRFA) – According to Florkowski and Olivas-Lujan (2006), HRFA are software-enabled automation of separate jobs and responsibilities to the HR department. Application software is a defined subclass of computer software that utilizes the competence of a computer directly to a duty that the user wishes to execute. An HR functional application implies software for a particular action or group of actions. Most common functional applications existing for the diverse tasks are benefits administration, personnel tracking and payroll, recruitment and selection, leave and attendance, payroll, benefit management, Performance appraisal, labor relations advisory, occupational health and safety module. As stated

by Doughty (2000), today, within the HR software market there are a myriad of HR systems, payroll, training administration, 360 degree feedback, psychological testing and competency software tools operating in their own software features.

Figure-2.3: HR Software Application Functionality

<table>
<tr><td>Reward & Benefit Administration</td><td rowspan="2">Time - Office Leave &Attendance</td><td>Applicant Tracking System</td></tr>
<tr><td>Employee Tracking</td><td>Performance Review</td></tr>
<tr><td>Payroll</td><td rowspan="2">Scheduling of Work Force</td><td>Learning/ Knowledge Management</td></tr>
<tr><td>Foundation/Core HR</td><td>Employee Management</td><td>Transformational/ Strategic HR</td></tr>
</table>

Source- compiled by scholar

As per Software Advice (2014), foundation/core HR includes the three traditional human resources management functions: reward and benefit administration, employee tracking and payroll. Employee management, scheduling of workforce, leave and attendance also comprises the range of software solutions intended to effectively plan and track the employee and include applications to track time and attendance, monitor conformity with labor laws, and usually include payroll functionality, or integrate well with other payroll software. Strategic HR includes growing company by attracting and developing the best people, as well as better managing employees overall. Strategic HR applications usually present some arrangement of applicant tracking and recruiting, learning management, as well as performance evaluation functionality. This type of software reorganizes these strategic processes to guarantee that a company is using its employee as efficiently as possible, and also that employees are abiding to grow and develop by increasing employee satisfaction and retention rates.

2.3.2 Integrated HR Software Suite Application (ISA) – As per Wikipedia (2014) integrated software is that combines the most frequently used functions of many productivity software programs into one application. According to Florkowski and Olivas-Luján (2006) ISA is

numerous applications clubbed together as a package are called as an application suite. The disconnected applications in a suite typically have a user interface that has some commonality making it easier for the user to learn and use each application. And often they may have some ability to interact with each other in ways beneficial to the consumer. Integrated software suite application (ISA) can be compared with system software which is occupied in integrating a computer's diverse capabilities, but typically does not directly relate them in the performance of jobs that benefit the users. ISA delivers business intelligence with analysis including, online analytical processing (OLAP), data mining, extract, transformation, and data warehousing, and reporting. This helps attain optimum levels of capability and providing total control of all HR portions by integrating all organization and staff data to offer information on every aspect of the operations right from staff policies to payroll processing. This also create all-inclusive reports that extend the entire spectrum of the database.ISA has lot of influence over HR functional application like, improved navigation, flexible functionality, simplified data management, efficient communications, integrated reporting, and shared environment and speed to value. As per Software Advice Portal (2014), of course, core HR personnel management and strategic HR functions often have common characteristics. While there are best-of-breed solutions for individual functions in every team, there are also integrated suites boasting across-the-board functionality.

2.3.3 Interactive voice response (IVR) – As per Webpedia (2014), interactive *v*oice response, is a communication technology in which somebody exercises a touch-tone phone to interact with a database to obtain information or go through data into the record. IVR technology does not need human interface over the phone as the user's interaction with the database is programmed by what the IVR system will permit the user access to. As per Wikipedia (2014) interactive voice response (IVR) is a technology that permits a computer to network with humans through the use of voice and duel- tone multi- frequency-signaling (DTMF) tones input via keypad. Florkowski and Olivas-Luján (2006) states IVR system directs telephone calls involuntarily to targeted receivers or footages by pressing touchtone buttons. IVR permits workforce to network with a company’s host system via a phone keypad or by tongue recognition, after which they can service their own exploration by following the IVR conversation. HR function afterward influences this technology to assist telephone-driven utilization of such services as benefits

enrolment, training enrolment, employee declaration, work-related studies etc. External parties and organizations are also able to confirm employee standing or income levels by calling the suitable numbers. IVR helps in automation of processes, serve staff after standard business hours, improve worker service, lower call centre costs, and prioritize workers, so pressing calls are handled speedily.

2.3.4 HR intranet applications (HRIA) – As per Weidenhammer (2013) "an intranet generates a single, protected warehouse for all confidential human resources information and procedures". It can offer an easy-to-navigate environment that is reachable by all workforces, despite where they are located or which computing platform they are using. Employees have instant admission to the most recent information. An intranet can help workers swiftly find the information they need. Employees aren't overwhelmed by burdensome instruction booklets, and they save time searching because they don't have to wade through pages of inappropriate information. To make things even more efficient, workforce can enter data online. This data can be involuntarily integrated into back-end information systems, so it can be validated on input, eliminating errors. In addition, the human resources staff does not have to re-enter employee data, freeing time for other more vital tasks.

Accordig to Florkowski and Olivas-Lujan (2006) HRIA is private computer network that provides workers with direct entry to link internal database and /or a seamless interface with the internet. It is a network intended to systematize and share information and bring out digital business dealings within a company. An intranet utilizes applications linked with the internet such as web pages, browsers, e-mails, newsgroups and mailing lists but is available only to those within the business. HR Intranets offer the most innovation to HR departments since the beginning of the desktop computer. As per Sanayei and Mirzaei (2008), **"**as intranet usage proliferated worldwide opportunities emerged to utilize e-mail and electronic-form software to reduce the costs of data entry for payroll, benefits administration, training administration etc".

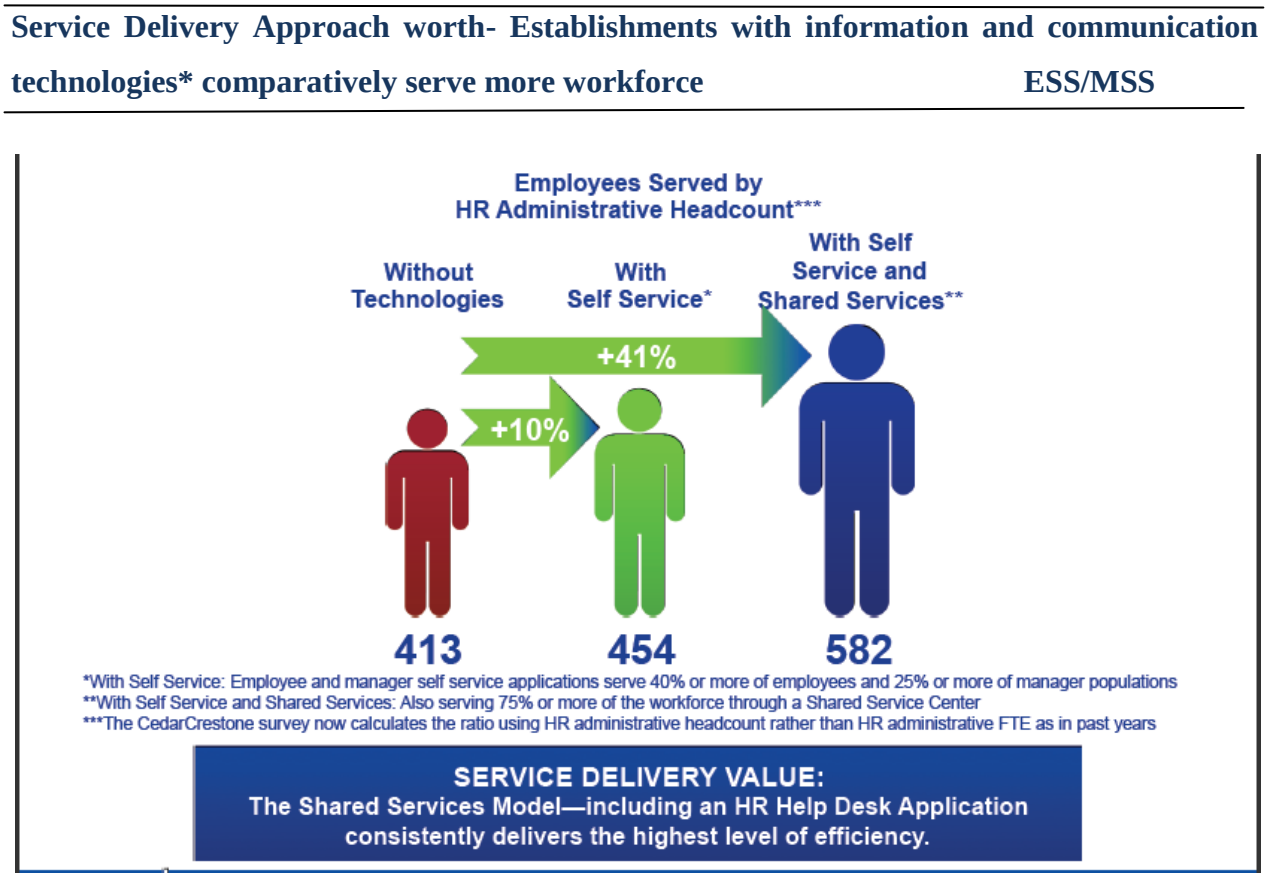
Rodgers, K. (2009) purports, the term HR intranet means diverse things to different people, but it's really about using your internal IT network to converse and work together. An HR intranet generally supplies self-service access to your central HR systems so managers and staff can input

individual data and transmit out transactions online, such as booking training courses. Some firms also have sophisticated workers portals on the front – a sort of internal home page where workers go to log on to different IT systems and get information. HR self-service capability is typically provided as an add-on to your HR management system.

HR intranet assists improvement in data quality, empowerment of employee, decline in paper consumption, streamlining process, quick spreading of valuable information on a wide range of topics, enable employee to perform various task, links employee and standardizes HR practices.

2.3.5 Self-service (SS) Application- As per CedarCrestone HR Systems Survey Report (2013–2014) with self service 10% additional workforce can be served and 41% more workforce can be served with self service and shared service when compared to service delivery tools without these technologies

Figure-2.4: Self Service and Shared Service (Service Delivery worth)



Source- CedarCrestone (2013), "CedarCrestone 2013-2014 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics" – 16th Annual Edition, Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2013-HRSS-HRTech-100713.pdf

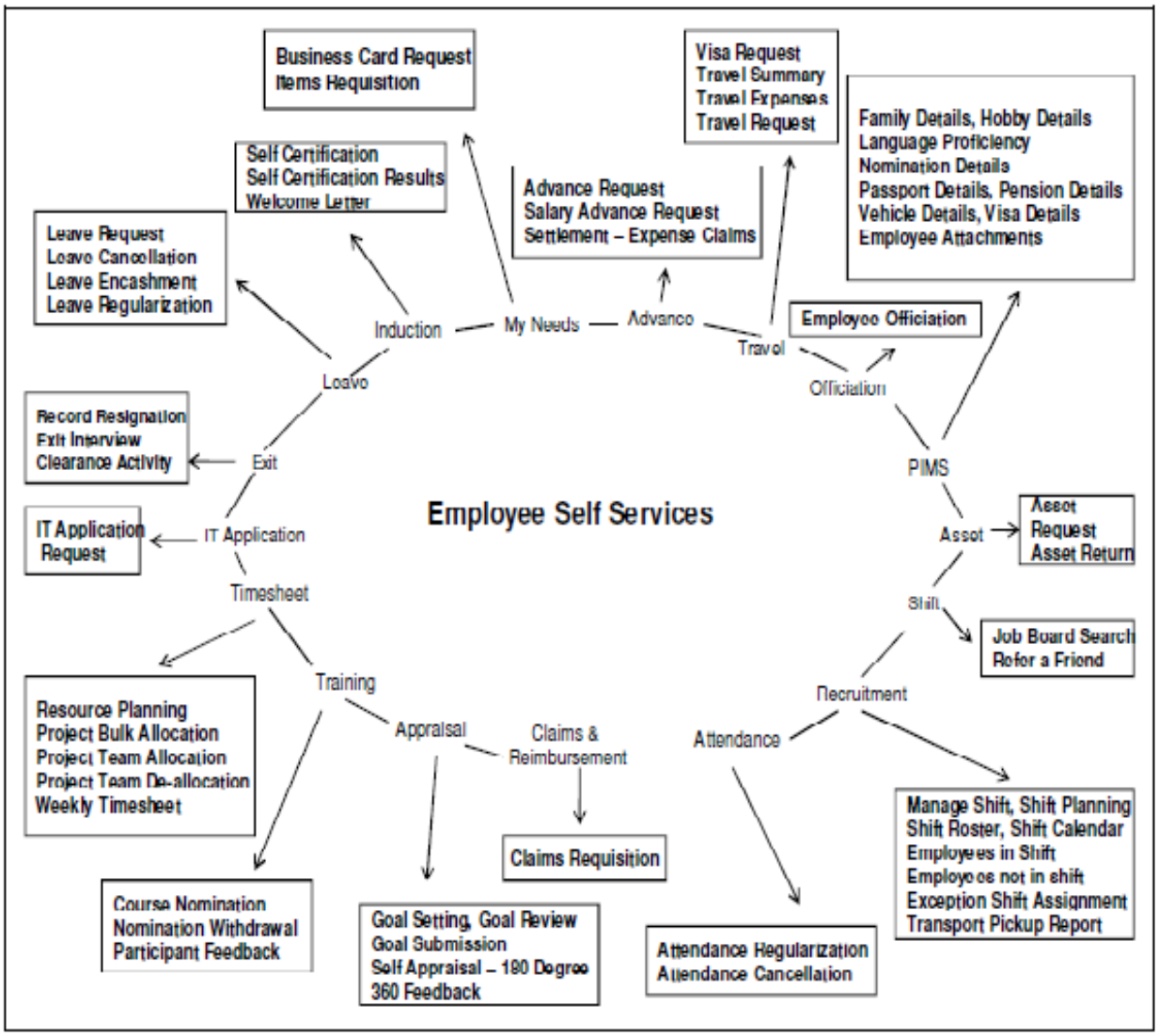
Self-service application can be broadly classified in two ways.

2.3.5.1 Employee Self-Service (ESS) Application- As per Ulrich (1997), "while attempting to make strategic changes within the human resource function, HR professionals must still bring good HR services to their stakeholders who include employees and managers". One of the most important elementary beliefs in managing human resources is promoting employment relationship so that workforce may feel connected to their work and contribute willingly to the success of the organization. As per Keebler & Rhodes (2002), there is acceptance of the fact that the workforce of a business is just as important as its clients, and therefore need to be kept satisfied and motivated. This can be obtained by improving HR service delivery. According to Ketlley P, and Reilly P (2003), before embarking on e-HRM, companies should evaluate and optimize their business methods. This may be a case of major process revamp, or a more tactical workout handling areas of worry. Following a process review, a common next step is to introduce a form of self service. This is likely to engage employee self service, where staff can access their personal file and update it or add new information. Keebler & Rhodes (2002) go on to argue how, while improving HR efficiencies is the major focal point in e-HRM technology devise, it should also support in making e-HRM technology more client-friendly. This should enhance the service experience of the managers and staff. In this way, a client service progress of the HR system can be achieved.

Florkowski and Olivas-Lujan (2006) mentions ESS is a software-facilitated set of HR dealings that can be initiated and completed without direct involvement of HR staff. It is a web-based application tool that provides employees with access to their personal records and their payroll details. It enables employee self-service and provides access to a comprehensive employee database. The employee database acts a centralized repository of vital employee related information made available to HR, workforce and executives. Its inherent employee self-service

capabilities ensure that this data remains current without tedious data entry by HR. The employee self service is the stand on which all other functional modules can be added to create a complete employee self service based HR system. .The employee self service pay an important role in working time and schedule, individual information, training and performance management, life events, benefits, careers, time off from work. With ESS employee can view and avail pay slips, abstract of year's earnings and deductions, loan statement, PF statement, settlement statement, income tax (IT) declaration, statement and calculator, reimbursement claim workflow, ticketing, leave workflows.

FIGURE-2.5: ESS- In Nut-Shell



SOURCE- Varma S., Gopal, R. (2010), The implications of implementing electronic human resource management (e-HRM) systems in companies, research thesis, Dr. D. Y. Patil University**,**. Maharashtra.

2.3.5.2 Manager Self-Service (MSS) Application- According to Adamson and Zampetti, (2001), "the objectives of manager self-service include improvement in the delivery of HR services, elimination of process steps, approvals and forms, speeding up and streamlining of workflow, reduction in administrative costs, improvement in management's access to important information, providing more time, and finally, enabling strategic HR". Manager self service provides managers with the tools needed to efficiently perform employee administration, as well as the information needed to help employees improve performance and enhance their skills. Manager self service transforms managerial activities from manual, paper-based processes with multiple levels of approval to a web-enabled, self-service system, it allows both managers and employees to stay focused on improving performance and simultaneously minimizes unnecessary human resources involvement in manager-employee interactions, increasing organizational efficiency.

As per ADP Employease (2013), it has been seen that line managers are irritated by the fact that they are one step behind from information or they have only secondary information not primary. Manager self-service puts the information managers need at their fingertips giving them the ability to more closely monitor and direct their team towards the strategic goals of the organization.. Manager self-service application leverage its utility in employee information, organization and staffing, employee time and schedule, employee leave and stability, evaluation of employee competencies, compensation management, timely performance reviews and development processes. It also facilitates new-hire initiation, reporting, competency gap analysis, employee training and development, automated workflows, organization charts, status changes, review and approval of timecards and leave requests, budget and cost centre, delegation of authority at the appropriate level and time, project management, administration, PF funds & gratuity management.

According to Ketlley P, and Reilly P (2003*), "*manager self service is usually a logical development, allowing the sign-off of various decisions or proposals and redesigning the HR function with impact on the roles and skills of HR staff". There will be many areas of up skilling as the move away from transactional work gathers pace. This will stretch the capability of staff, not just in terms of technological facility but also in customer and relationship skills. As per Florkowski and Olivas-Luján (2006), "MSS is a software-enabled set of HR transactions by managers that can be initiated and completed without direct involvement of HR staff".

2.3.6 HR Extranet Application (HREA) – As per Murugan et al. (1988), "extranet is the electronic computer-to computer transfer of information in a planned format that can occur between business trading partners, vendors and between various units within an organization". Accordig to Florkowski and Olivas-Lujan (2006), HREA application is a private computer network that connects the information system of client-firms to external merchants delivering co-sourced or outsourced HR service. HR extranets really act as conduits for electronic commerce between client firms and HR merchants or a business-to-business (B2B) market for HR services. Two different business models can administer these associations. In the first one, the HR function shares workforce data with merchants who use the information to effectively manage HR services under their stewardship. Lacking authorization to communicate with vendors, employees continue to go to their employer to renew service choices, revise personnel records, and voice complaints about services rendered. The second model saddles merchants with broad accountability for database management and service administration. Here, employees use the extranet to directly initiate or modify service delivery from external suppliers.

Flanagan (1997) state, extranet assists the swap and processing of high volumes of data from one computer to another. Extranets have been used by workforce to communicate with merchants, service providing partners, and various other audiences who contribute to the operating efficiency or to the bottom line. As per HRCentral.net (2013), HR extranet has application with staff training, management training and coaching, legal compliance, salary, benefit and payroll administration, personnel file, health and safety programs, unemployment claims management etc.

2.3.7 HR portal applications (HRPA) – As per Microsoft business solution (2012) a portal is an integrated place that join people to contextually pertinent information, services, and applications. Accordig to Florkowski and Olivas-Luján (2006) "HRPA is website interaction that offers a personalized unified access point to all information sources, devices, and systems individual needs to effectively consume or deliver HR services". The range of work-related data and actions that one can link to is role driven. In some instances, employees have the ability to interact directly with external merchants feeding to personal needs and interests. Portals are highly configurable through code modules. As per Microsoft business solution (2012) HR portal can afford HR-related substance and applications to those who need it—those assigned to the staff, manager, payroll administrator, and human resources administrator roles.

As per Quikker (2008) HR portal solutions offer entrée to additional process based tools and applications that facilitate staff to achieve major efficiencies in their work and HR Portal now becomes a habitual tool for employees to manage all of their work related tasks, from requesting a holiday; through managing their performance and development, as well as providing access to improved communication tools to enable collaboration. Through better understanding of organizational objectives, and how they can contribute, staff becomes more engaged and aligned and more productive. The capability for integration offered by HR portals represents another shift in value by protecting existing investments in systems and processes. With an HR portal 'synchronized' to other systems within the business it now becomes the single point of integration for company information and presents an option for employee self service – single sign-on /single data-entry.

HR Magazine, editorial content (2010) states personalization, online decision support, tools designed to help workers compare benefits plan features, realize insurance coverage relating to specific events and estimate medical costs while enrolling via portals is highlights of portal application. HR portal give employee a consultant while reducing the volume of e-mail and calls to HR staff members for help with benefits decisions. Video is also playing a more prominent role on HR portals. Latest portal is helpful for member of staff to be able to navigate to all of those areas seamlessly to complete transactions without receiving multiple login prompts. As HR portals continue to progress, many experts say the subsequent wave will feature social

networking-type tools that promote workforce to share proficiency, join communities of practice or connect in other ways. Kluemper, D and Rosen, P. (2009) states, indeed, social media, or web 2.0 as a lively set-up has been suggested by some scholars to be the budding technology that will have a major effect on HR. Firestone (2003) states HR portals are vehicles through which HR information and applications can be channelled effectively and efficiently. As per Cascio (2000) and Collins (2001), through HR portals, employees can update own administrative activities and may have also have right of entry to customized and personalized news, resource applications, and e- commerce options. Through HR portals managers can proficiently create reports, scrutinize employee activities and supervise their own activities.

Table-2.3: E-HRM Tools at a Glance

Tools	End-user	Purpose	Common features	Activities for end-users
HRFA	HR staff	Software-enabled automation of discrete jobs and responsibilities to the HR function.	Lack of uniting parameters across software products	Keeping personnel details, administration, monitoring in line with human resource planning, recruitment and talent management and other life event objectives
ISA	HR staff Internal customers (if self-service apps implemented)	Compilation of human resource functional applications traded as unit	Ability to share data among applications. Each functional application is full-featured and can stand alone	Management of life events from hire to retire Talent management, Performance management Stakeholder management
IVR	Internal + External applicants	Software facilitated phonetic configuration that permits callers to contact work-related information and/ or input data through audio or telephone-keypad instructions.	Electronic voice mail Data-entry ability to support select HR activities or to respond to organization surveys	Access company announcements, Benefit-plan enrollment, Training registration, Applicant testing and elementary bio-data compilation, Employment/income authentication by certified external parties
HRIA	Internal + External applicants	Private computer network that offers workforce with direct entrée to linked internal database and/ or a seamless interface with the internet.	Online publishing of policies, brochures and forms, Online postings of employment vacancies	Review of staff information in HR databases, Online tracking of retirement-plan performance, Online assessment of potential health care providers for benefit plan determinations

Tools	End-user	Purpose	Common features	Activities for end-users
ESS/MSS	Internal customers	Software-facilitated set of HR transactions that can be started and accomplished without direct association of HR staff.	Highly configurable regarding the range of automated HR transactions, Role-inhibited access to particular HR transactions	Directly updating individual information in HR databases, Online proficiency testing and training listing Creating, following , and administering open job request, Granting base-remuneration increase and tracking decisions against sanctioned budget
HREA	HR staff + Internal customers (if Authorized)	Private computer network that connects the information system of customer-firms to external sellers conveying co-sourced or outsourced HR service	Firewalls restricting external access to "shared "HR" data	Updating individual information alteration in databases managed by outer merchants, Online oversight of medical helps, annuity administration
HRPA	Internal customers HR staff	Website interface that provides a tailor made unified entrée point to all information sources, tools, and systems person requires effectively consuming or delivering HR services.	Role-confined right to use data stores, applications and systems	Online shopping for discounted offerings from a pre-configured network of exterior goods and service merchants

Source- Florkowski, G. and Olivas-Luján, M. (2006), "The diffusion of human-resource information-technology innovations in Us and non-Us firms*", Personnel Review*, 35 (6), pp. 684 – 710

2.4 Strategic Orientation- Lepak & Snell (1998) argue that the true value of the HR function is when it helps the organization to achieve competitive advantage, for example, through the development of core competencies. Human capital, according to Walker (2001), is the last remaining competitive advantage in business. In order to gain a competitive advantage, the way in which these human resources are managed has a need to change. As per Rowden (1999), the paradigm shift from the administrative aspects of HRM led to the emergence of strategic HRM as a new generation of value-added core responsibility or function of HRM. According to Lawler & Mohrman (2003), the HR function can and increasingly is making significant contributions to building an organization that is staffed by the right human capital to carry out the work of the firm and enable the accomplishment of business strategy.

As per Wei (2006), strategic HRM reflects a more flexible arrangement and utilization of human resources to achieve organizational goals, and accordingly helps organizations gain competitive advantage. According to Foster (2009), the role and activities of the HR function in an organization are likely to be strongly influenced by the organization's competitive strategy. For example, if the organization has a competitive strategy that requires it to be a low cost operator, then it is likely that the role of HR will be to provide basic services and compliance at low cost, with an emphasis on basic services. Likewise, if the strategy is based on differentiation, then a focus on innovate products is likely to support an emphasis on people management, leading to higher levels of investment in employee development and career management, with a higher profile for the HR function. Lawler & Mohrman (2003) see HR's greatest opportunity as being in the development and implementation of corporate strategy, by helping the organization to develop the necessary capabilities.

2.4.1 E-HRM as Strategic Enabler- Sanayei, and Mirzaei, (2008), "technology-enabled model of HRM is frequently started as an cost cutting program, but it quickly progressed into a foremost medium of competitive edge and in the mean time human resource function of few organizations utilize some virtual HRM utilities, others try hard to reengineer, computerize and incorporate almost all of their HRM activities". Walker (1992) states human resource strategies are departmental strategies like marketing, operations or information technology strategies, however these are unlike in the logic that they are entangled with all other strategies in the establishment. E-HRM operates as an instrument that assists human resource management in attaining strategic edge. As per Wang and Mobley (1999), in an organization three HR strategies for global technology innovation and rapid organizational development were proved to be effective for integrating person-system-organizations elements: personnel strategy, system strategy, and organizational strategy. As per Bieasaliski (2003) the HR-department can focus more on the qualitative tasks in human resource planning like coaching and consulting. By sharing information and being knowledgeable business partners are able to act more productively to maintain the association over time. That is, relationship strength can create a competitive advantage through the strategic sharing of a company's key information.

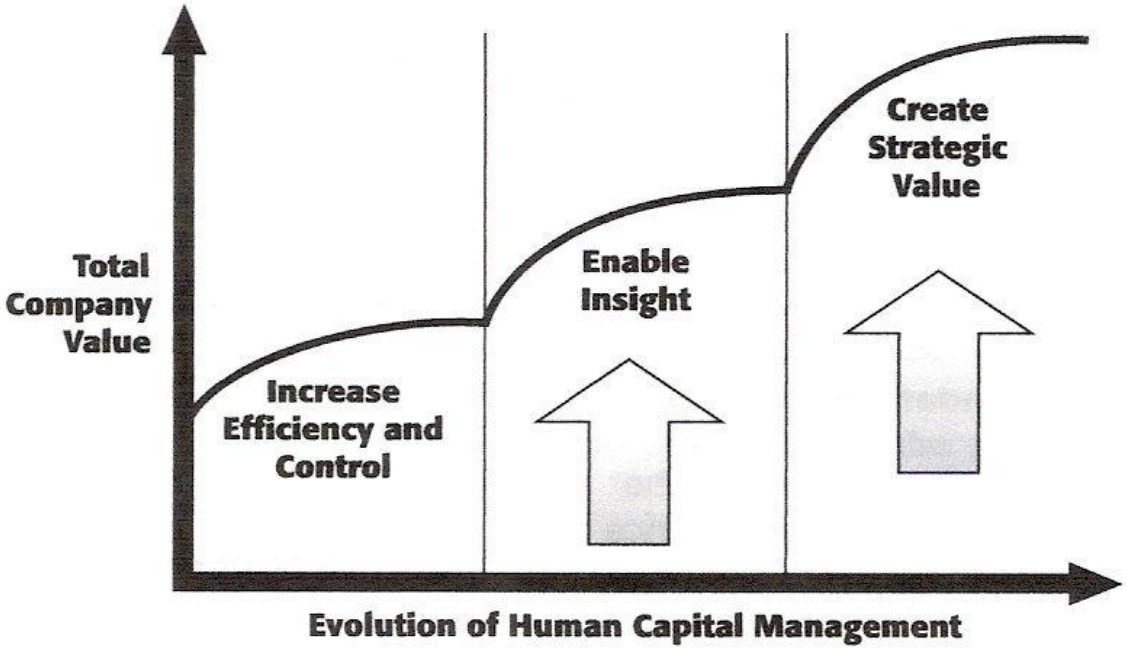
Beckers and Bsat (2002) pointed out increase in competitiveness by improving HR practices and shift the focus of HR from the processing of transactions to strategic HRM are the few reasons why companies should use HRIS. Wang (2005) describes the need for technology innovation and HRM integration. The development of e-HRM systems is growing, allowing the HR function to become more strategic. Ruel, Bondarouk and Velde (2007) have conducted a research in the Ministry of Internal Affairs in the Netherlands, where e-HRM in the form of employee self-service applications was introduced. The study shows that individual assessment of e-HRM applications influences HRM technical and strategic effectiveness. Hussain, et al. (2007) states, few differences existed between Small/Medium (SME) and large company. HRIS usage and that specific use of HRIS for strategic collaboration enhanced professional standing.

Bell. Lee, Young, (2006) examines information technology has been cited as a critical driver of HR's transition from a focus on administrative tasks to a focus on serving as a strategic business partner. This strategic role not only adds a valuable dimension to the HR function but also changes the competencies that define the success of HR professionals. Panayotopoulou, et al. (2007) analyses and discusses the development of e-HR use in Greece and the reason for adoption of e-HR practices focusing on strategy process and HRM issues. Finding shows that e-HR facilitates the transformation of HRM role into a strategic one.

According to Tanya B. and Ruel, H. (2010), examinations of recent e-HRM literature classify strategic benefits prescribed for e-HRM as generation of HR metrics to support strategic decision making, freeing HR staff from administrative burdens and allowing them to undertake strategic people-management activities, transforming HR professionals from administrative paper handlers to strategic partners, the branding of organizations. As asserted by Ketlley and Reilly (2003), technology has only recently developed in a way that enables e-HRM to make its mark, especially the introduction of corporate intranets and web-enabled HRIS. Before embarking on e-HRM, organizations should review and optimize their business processes. The development of e-HRM systems is growing, allowing the HR function to become more strategic. According to Aghazadeh (2003), HR professionals need to integrate their knowledge of core HR functions with the economic and business environment within which they work, and also keep abreast of technological developments. By doing this, HR professionals will be able to have a strategic

impact on their organizations. Fletcher (2005) traces the transformation of human resources from manual processes to sophisticated CRM and ERP systems and examines the effectiveness of online strategies for attracting talent. CedarCrestone (2013) HR Systems Survey report with HR technology organizations with more HR Technology are able to achieve high cost efficiency and able to align HR and business strategy resulting in competitive advantage.

Figure -2.6: Evolution of Human Resource to Human Capital Management in Business



Source- Fletcher, P. A. K. (2005), "From personnel administration to business-driven human capital management: The transformation of the role of HR in the digital age", In H. G. Gueutal & D.L. Stone (Eds.). *The brave new world of eHR: Human resources in the digital age.* Books 24×7.com: Jossey-Bass.pp. 1-15.

2.4.2 Administrative Burden Reduction- As per Sacht, J. (2003), it is clear that HR must find a way to relieve itself of administrative burdens (without abdicating their administrative role) in order to maximize its contribution to business strategy. As per Wright & Dyer (2000), HR function has had to play a more strategic role in the organization. The only way to achieve this is to relieve much of the burden of transactional human resource activities in order to free up time

so that HR can concentrate on traditional and transformational HR activities. This is done either by outsourcing some of the human resource function, but what would be more relevant to this study, is to utilize information technology in the form of e-HRM. New systems have been developed that allow management and employees to manage much of their own human resource activities, such as leave application and approval, personal data changes etc. Thus, e-HRM systems aid in freeing up time for the HR function so that there can be greater focus on high-value strategic initiatives.

As per Matman (2006) e-HRM technology should free up the HR professionals from time-consuming administration activities. This should enable HR professionals to spend more time on strategic activities and the delivery of important HR activities face-to-face. It is therefore expected that the use of e-HRM implies a change of the job content of the HR professional to strategic partner. Ulrich (1997) mentions, as technology frees up HR from some of its routine tasks, there is a greater opportunity for HR professionals to become a strategic partner. According to Lawler and Mohrman (2003), the link with the implementation of e-HRM technology that the technology frees up time in the HR organization which can be spent on the activities related to the strategic role of HR.

The committee Rijn Van (2001), concluded that the different HR functions of the different parts of the public sector should be integrated into a single shared service centre. IT should enable the integration of the dispersed HR function and therefore could be HRM goal for the adoption of e-HRM technologies within the Dutch MIA. As per Matman (2006), the use of e-HRM technology is expected to lead to changes in times spent by HR professionals on specific HR activities. This change is driven by the new HR architecture where employees and managers are expected to have more HR responsibilities According to Huselid (2004), some organizations strive to free HR professionals for more strategic tasks. HR professionals are enabled to spent more time on strategic aspects of HRM when are freed from administrative day-to-day activities.

2.4.3 Change Management- According to Gloet and Berrell, (2003), "the development of information and communication technologies (ICTs) has radically changed our social and economic lives, and has had a profound effect on the way organizations are managed".

According to Hitt and Brynjolfsson (2000), "ICT enable firms to introduce organizational changes in the areas of re-engineering, decentralization, flexible work arrangements, outsourcing, lean production, teamwork, customer relations and it also allows firms to produce with greater flexibility and shortened product cycles to satisfy shifting consumer preferences and in turn, these organizational changes are essential for realizing the full benefits of ICT".

According to Matmann (2006), the new HR architecture where employees and managers are expected to have more HR responsibilities. In the mean time it is expected to lead to changes in the time spent by HR professionals on IT activities, administration activities, supporting managers and employees, and strategic activities. According to Arnal et.al (2001), the incidence of organizational changes is much higher in the firms that invest in ICT or have high share of workers using computers than is the case in the firms that do not invest in ICT or have low share of workers using computers.

According to Thite et al. (2008)," historical analysis of trends showed the role of e-HRM in the company has changed over time from being primarily concerned with routine transactional HR activities to dealing with complex transformational ones". According to Lawler III & Mohrman (2003), "a dramatic change in the employment law arena is forcing Human Resources (HR) to transform its own operations, and its strategic role in contributing to the success of business of all size".

2.4.4 Knowledge Management- As per Biesalski (2003), at first the growing attention of companies on the factor knowledge is mainly driven by the evolution of information technology. Information systems like e-HRM solutions that network information, enable companies to get a consistent concept for their knowledge management.. According to Newman (1991), the availability of new information and communications technology (ICT), particularly the World Wide Web, has been instrumental in catalyzing the knowledge management movement. Knowledge management (KM) is a collection of processes that govern the creation, dissemination, and utilization of knowledge in an organization.

As per Ajiferuke, I. (2003) "information technologies, such as intranets, web portals, and groupware, are often used to facilitate the sharing of knowledge among a group of workers (commonly referred to as a community of practice) in an organization because of their capabilities in extending the reach as well as enhancing the speed of knowledge transfer" .

According to Lengnick-Hall and Moritz (2003), "e-HRM provides the HR function with the opportunity to create new avenues for contributing to organizational effectiveness through such means as knowledge management and the creation of intellectual and social capital". According to Biesalski (2003), a variety of techniques is used in companies to acquire knowledge, to organize knowledge and to make knowledge transparent. At the moment ePeople organizes the competency tree as a simple tree data structure in its database.

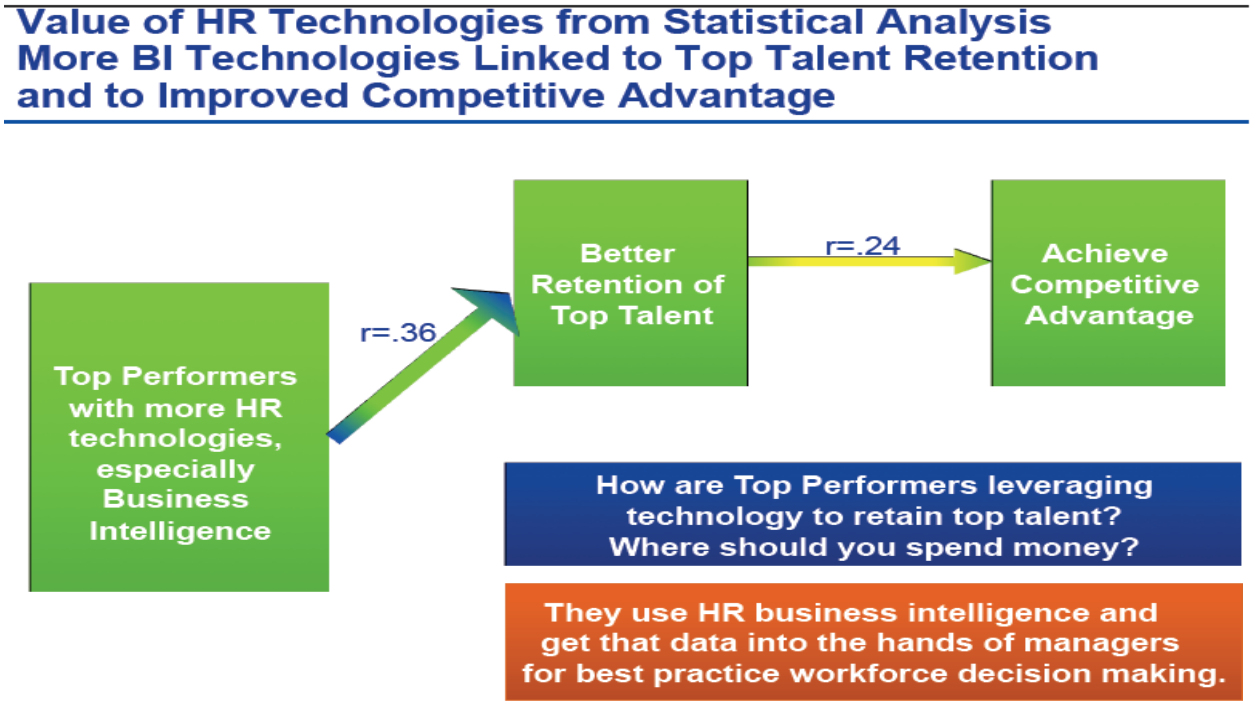
According to Bingham, & Galagan, (2007), Indian organizations use e-HRM as a tool for training and development to enhance knowledge capital and also stay at par with the global competition. As per Tyler, K. (2006) as Indian educational institutions do not sufficiently prepare students for corporate work, therefore the concept of training and e-learning is welcomed by most large and IT organizations in India. Bhattacharya, I. & Sharma, K. (2007), the National Knowledge Commission was established to make India a potential leader in the field of knowledge and learning. Indian organizations are also promoting e-learning to enhance the knowledge capital of their employees and therefore contribute to firm performance. According to Bhatnagar, J. & Sharma, A. (2005), e-learning initiatives seem more predominant in large Indian companies and multinationals that tries to provide the best practices for their employees. It has been also observed that impediments for e-HRM services in Indian corporate are resistance from HR leaders that they may have reduced control over HRM functions and also lose their primary jobs.

As per Taylor (2004), in most organizations, the key professionals involved in knowledge management activities are human resource managers, process & product developers, and information technologists. As per Lengnick-Hall and Moritz, (2003), "e-HRM also provides the HR function the opportunity to create new avenues for contributing to organizational effectiveness through such means as knowledge management and the creation of intellectual and

social capital". As per Hitt and Brynjolfsson (2000), OECD (2002), e - HR helps maximize a company's progress toward a knowledge economy and increased shareholder value. As per Biesalski (2003), to make implicit knowledge more transparent Daim ler Chrysler AG, Plant Worth uses skill management in his HR-solution to document the knowledge of each single employee.

2.4.5 Employer Brand Image- As per The committee Rijn Van (2001), HRM could play a significant role in strengthening the position of the public sector in the labor market. However, this required the renewal of the HR system and use of IT (Quoted in MinBZK 2006). As per CedarCrestone (2013) HR Systems Survey report, with HR technology especially business intelligence, organisations are able to retain more talent resulting in competitive advantage.

Figure-2.7: Business Intelligence and Competitive Advantage



Source- CedarCrestone (2013), "CedarCrestone 2013-2014 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics" – 16th Annual Edition, Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2013-HRSS-HRTech-100713.pdf

Bhatnagar (2007) sees e-HRM as providing a powerful brand identity in the external recruitment area which would not be possible with traditional approaches. E-HRM can help in a positive way by providing the ability to access, collect and disseminate information, giving individuals greater access to information about job opportunities, benefits and setting expectations about an employer. As per Bondarouk, T et.al (2012), **"**Promoting an organizations employment brand often occurs via different media sources, of which corporate web-sites and social networking sites recently gained in popularity". As per Alleyne, et al. (2007) HR intranet had an influence on satisfaction with the overall HR function. These internal perceptions of the organization and the HR function are also be shaped by the use of e-HRM through improved communications, better internal job application processes and access to policies. External applicants are also likely to form impressions of the organization as they pass through the recruitment process.

According to Bondarouk, T et.al (2012), " corporate websites moderate the relationship between employer branding and organizational attractiveness positively, while the outcomes of social networking sites show no significant result and outcome show that corporate websites are an important tool to provide organizational outsiders with employer branding information". According to West & Berman (2001), in a study of public sector managers, found that line managers believed that good e-HRM would allow the organization to compete with the private sector in attracting and retaining good employees. According to Bondarouk and Ruel (2010), examination of recent e-HRM literature classify strategic benefits prescribed for e-HRM in six groups and found branding of the organization one of them.

According to Bondarouk, T et.al (2012) organizations, on the other hand, more often use these types of communication on their own corporate websites by focusing on employee testimonials to increase their employer brand. As per Foster (2008), e-HRM also presents opportunities for developing employer branding and can be truly regarded as a strategic capability that would not be possible without the technology. Panaytaoplaou et al. (2007) found that 78.4% of his sample saw e-HRM as having an impact on company image.

2.4.6 Standardization of Practices- Lepak and Snell (1998) stated that IT can be of support when the HR function is to be integrated as different parts of the HR function are provided by different parties (managers, employees, HR professionals or even other organizations). As per Rob, s. (2008), if one would separate the HR function into two broad components, namely transactional and non-transactional activities, then it is easy to envisage the transactional components being e-enabled. Components being e-enabled can be implemented within subsidiaries as a standard tool in performing HR functions. Bjorkman and Lervik (2007) put forward three dimensions of ascending levels of transfer success – implementation, internalization and integration of diffused HR practices. According to Marler (2009), organizational goals for e-HRM investments include cost reduction through streamlining HRM operations.

According to Bondarouk, T et al. (2004), two conditions for the integration of the HR functions were standardization of the HR function and harmonization of dispersed HR functions. According to Mittal and Kumar (2006), business practices used to differ from place to place before application of ICT or web based technology in HR was implemented. The same has been standardized now. According to Shane (2009) e-HRM allows for decentralization and standardization of HR tasks across global boundaries. According to Tanya and van Balen (2010), business models of HR SSC's try to capture the benefits from both centralized and decentralized models that are often conflicting in nature. While serving multiple customers having various needs, standardization and a clear management structure are maintained as benefits of the central model.

According to expert group on future skill needs EGFSN (2008), "internal integration and centralized decision making is of paramount importance in the operation of global e-HRM system and any deviation from the standard system would arguably compromise the quality of the data collected and ultimately impair the informative value of any subsequent analyses of this data". According to Orlikowski, W. (2000), MNCs strive to attain internal consistency of policies and procedures to develop and sustain their corporate identity, while, on the other hand, MNCs are forced to tailor their policies and practices to suit the cultural, societal, and legislative environment of their host nation in order to achieve local efficiency. Morgan and Kristiansen

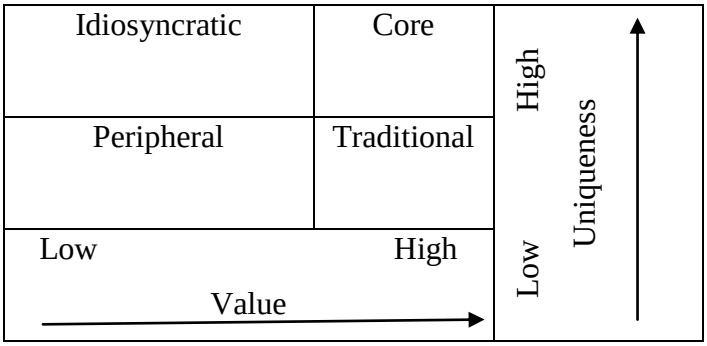
(2006), contend that the countervailing nature of these institutional contexts will ultimately lead to micro-political conflict between the head quarter (HQ) and the subsidiaries and the subsidiaries themselves. According to Bondarouk, T (2004), in most of the cases it has been seen standardization and harmonization of HR policies and practices as a condition for globalization. Globalization was a driver for centralizing HR policies responsibilities at company headquarters, while responsibilities for applying HR responsibilities were actually decentralized. E-HRM can be of support in integrating the dispersed HR function.

2.5 Financial Impact / Growth- Fletcher (2005) states, for HR to survive in this brave new world it needs to "possess a technology" may have to lead a line of business and should have profit and loss responsibility, understand what it means to be accountable for delivering business results. According to Mittal, & Kumar (2006), "the desired data is being replicated online between various information centers from time to time and this has resulted in minimizing the lead time and saving of resources both in terms of manpower, paper movement and cost on communication and operation"**.** According to Lengnick-Hall and Moritz (2003), for HR function, e-HRM has the potential to affect both efficiency and effectiveness. Efficiency can be affected by reducing cycle times for processing paperwork, increasing data accuracy, and reducing HR staff. Effectiveness can be affected by improving the capabilities of both managers and employees to make better and timelier decisions.

2.5.1 Outsourcing cost- As per Dessler (2004) mentions, technological applications play an increasingly important role in HR. Technology improves HR functioning in four main ways: self service, call centers, productivity improvement and outsourcing. As per Lepak and Snell (1998), idiosyncratic activities are most suitable for outsourcing as it is low in uniqueness, infrequent use, more standardized and its value also low. Core HR activities are expected to be performed by the HR professionals. Traditional and peripheral activities with a low uniqueness are devolved to managers and employees and the most suitable to be provided on digital platform. As per Foster (2009)**,** e-HRM allow organizations to perform more work internally without the addition of more staff, or by transferring work back from expensive external contractors and agencies. It has been identified that there might be savings arising from reduced reliance on third party

providers such as recruitment agencies, where e-HRM makes it possible to perform the work more cost effectively internally.

Figure-2.8: The value and Uniqueness of HR Activities



Source- compiled by scholar

2.5.2 HR Head Count Reduction – As per Foster, S. (2009)**,** cost reduction is a critical driver in most e-HRM projects. Opportunity for cost reduction arises because any resource devoted to the delivery of transactional services, such as the manual entry of data, maintaining employee records, processing requests, filing and dealing with enquiries is expensive and organizations will seek to reduce these types of cost at every opportunity. It is obvious that there is clear pressure within organizations to reduce HR operational cost.

As per Lengnick-Hall & Moritz (2003), fewer HR professionals are needed because e-HRM eliminates the "HR middleman". According to Prasad, L.M. (2003), large organizations generally install e-HR because it enables them to collect, store, process and manipulate large amount of data inputs, reduce costs of maintaining human resource data and provide accurate information about human resources anytime and anywhere. Walker (2001) stated, many systems have been implemented by cutting HR staff, outsourcing and imposing new technology. The committee Rijn Van (2001) concluded that reducing costs was not necessary because money, in their opinion, was not a real problem. The problem was the shortage of qualified employees in the labor market and therefore the public sector risked not being able to provide the services demanded. Therefore organizations should work more efficient to be able to more with less (more work with fewer employees). According to Wiscombe (2001), there is general consensus that HR technology lowers HR operating costs although estimates as to the potential for

operational savings vary, from a reduction in administrative staff of up to 40% and reductions in transaction costs of 50%. According to CedarCrestone (2009), US evidence suggests that a 20-25% reduction in HR costs is possible through e-HRM. The Aberdeen Group (2009) found that best in class organizations decreased the number of manual HR transactions by 11% and shortened HR service delivery cycle times by 5%. One important HR measure of administrative efficiency, apart from cost, is the number of HR people required to deliver the service relative to the number of employees supported – most large organizations strive for a ratio better than 1:100, that is, one HR person serving every 100 employees.

2.5.3 Cycle Time Reduction - As per HR Focus (2002), some statistics used to justify the investments made in e-HRM technologies are for example the average cost of an HR transaction, number of inquiries to the service centre, cycle times, headcount changes in the HR department and financial metrics such as return on investment (ROI) and the duration of the payback period. Lengnick-Hall & Moritz (2003) stated, the core goal of e-HRM is to assist the organization and human resource professionals to get non-strategic, transactional HR tasks done quicker, more cost-effectively and with less dependence on HR staff. Foster et al. (2004) describe that the application of the internet to the human resource function (e-HR) combines two elements; one is the use of electronic media while the other is the active participation of employees in the process. These two elements drive the technology that helps organizations lower administration costs improve employee communication and satisfaction, provide real-time access to information while at the same time reducing processing time. As per Mittal and Kumar (2006), the implementation of e-HRM has made duplicate efforts almost zero, as the software is maintained at one place, entry of information is done at the point of generation of information and automatic consolidation and integration of data is taking place. Lengnick-Hall & Moritz (2003) mentions, besides this, the automation and provision of HR activities enables streamlining of the HR processes which can lead to reduced cycle times of the HR processes. Service centre initiatives permit the organization to serve up to 11% more employees with an average 60% cycle time reduction across HR processes. The Aberdeen Group (2009) found that best in class organizations decreased the number of manual HR transactions by 11% and shortened HR service delivery cycle times by 5%.

2.5.4 Administrative and Operational Cost - As per Foster S. (2008), for many organizations, introducing e-HRM represents the first stage of HR transformation, which is about efficiency, effectiveness and removing excess cost as well as improving HR service delivery. As per Walker (2001), "if HR technology is to be considered successful, it must change the work performed by the human resources personnel by dramatically improving their level of service, allowing more time for work of higher value and reducing their costs". Aravind and Paramashivaiah (2006) emphasize that it is critical for every organization to resort to means that offer quality recruitment solutions at competitive costs. This is where the realm of e-recruitment starts. Gupta and Chhabra (2004) assert that the twin objectives of any human resource information systems can be understood as operational efficiency and effective managerial decision making. The survey conducted by Watson Wyatt (2002) to research the impact of e-HRM technologies, cost reduction was found to be a top metric in formal business cases for the adoption of the e-HRM technology. Ruel (2004) study has suggested that the implementations of e-HRM are driven by cost reduction goals of the HR system. According to Lengnick-Hall & Moritz (2003), a typical argument for the adoption of e-HRM technologies is: "Use e-HRM and your organization can reduce process and administration costs". As per Cober, et al. (2004), for recruitment, organizations are utilizing their own web sites even better because of the rising costs of web advertising and decreasing ease of finding qualified applicants.

The Aberdeen Group (2009) evidence suggests that the amount of time spent on operational (i.e. administrative) work is reducing as a result of past process improvement efforts - it has now fallen as a proportion of overall workload from 50% in 2003 to 36% in 2007, achieved through technology-enabled HR delivery models such as shared services and outsourcing.

2.5.5 Quality Improvement Saving - According to Jessup and Valacich (2004), the IT system has provided better corporate governance and employees have become aware that their movement, overtime, unauthorized absence, tours, expenses on medical, transport, telephone etc. is being monitored. As per Lengnick-Hall & Moritz (2003), e-HRM speeds up transaction processing, reduces information errors, and improves the tracking and control of HR actions, thus e-HRM improves service delivery. As per Panayotopoulou et al. (2007), employee and manager self service leads to higher accuracy and data quality. Adamson and Zampetti (2001)

stated, through the implementation and subsequent use of employee and manager self service applications, e-HRM has brought about considerable improvement in the updating of employee information, the posting of job specifications, changes in policy and procedure, training and staff changes. As per Oracle JD Edwards EnterpriseOne Manager Self Service (2007), e-HRM transforms managerial activities from manual, paper-based processes with multiple levels of approval to a web-enabled self-service system, it allows both managers and employees to stay focused on what matters most: improving performance. As per Mittal and Kumar (2006), e-HRM has minimized the data mistakes as the data entry is being done by the person who is directly responsible for source data generation.

2.5.6 Output of HR- The survey of Watsonwyatt (2002) mentions productivity improvement as one of the four top metrics used to justify the implementation of e-HRM technologies. As per Hawking and Stein (2004) "this technology holds out the promise of challenging the past role of HR as one of payroll processing and manual administrative process to one where efficiencies cost can be gained, enabling more time and energy to be devoted to strategic business issues". As per Oracle Jd Edwards EnterpriseOne Manager self service (2007), delegation of authority at the appropriate level and time, the time saved can be translated directly into cost savings for the organization. By empowering managers to perform business transactions themselves, human resources staff time can be saved and, just as importantly, your managers can be more productive because they have the real-time information they need at their finger tips, which allows them to manage their teams more effectively. Researchers like Foster et al. (2004), Bondarouk, T(2004), Strohmeier (2007), reveals the idea that e-HRM increases productivity through decreased requirements for HR staff, increased speed of process due to automation as well as cost reduction. Towers-Perrin (2002) notes how the use of e-HRM is creating opportunities for HR shared services delivery centers, which in turn lead to new economies of scale, including better and greater efficiencies for HR operations. According to Aberdeen Group (2008) indeed, for most organizations investing in e-HRM, it is unlikely that there will be financial funding for an e-HRM project without quantified operational benefits; economic pressures and the need for tight cost control drive 76% of investments in HR systems, although fewer than one third of organizations describe the internal HR function as 'very cost effective'.

2.5.7 Stationery Material Cost- As per Mittal & Kumar (2006), many of the information sent earlier to the employees through paper are made available online which has reduced lot of paper work including pre-printed stationery etc. All the application forms have been provided online wherein employee can used them for submitting their applications. With the implementation of workflow applications papers have been replaced with electronic documents. As mentioned earlier, it is very difficult to find out the direct cost and benefit from the software, so is the case with return on investment (ROI). According to Adamson and Zampetti (2001), "HR self-service, entails the use of interactive technology by employees and managers to obtain information, conduct transactions and essentially short-cut processes that previously required multiple steps, paperwork, and the involvement of HR staffers". Foster (2009) states, other cost savings might arise as a result of displacing existing technologies with resultant savings in licensing and support costs, or switching to electronic rather than conventional media. For example, the introduction of technology means that more documents (offer letters, interview invitations etc) can be sent on-line, with a reduced need for stationery, postage, facilities and other day-to-day costs. Recruitment processes, in particular are often highly reliant on the mail system, whereas e-recruitment eliminates this need made large savings simply by scrapping its physical applicant packs.

FIGURE- 2.9: Cost Efficiency and Competitive Advantage

Source- CedarCrestone (2013), "CedarCrestone 2013-2014 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics" – 16th Annual Edition, Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2013-HRSS-HRTech-100713.pdf

2.6 E-HRM as a Facilitator- Keebler & Rhodes (2002) stated, to provide better service to users of the HRfunction it is significant to focus on the feeling of the users consuming service of the HR department. Gupta (2008) stated e-HRM play various roles of system manager, HR manager, time manager, payroll manager, and report manager. According to Prasad (2003), the thought of automated HRIS is derived as a structured way of providing information about hunan resources, their functioning, external factors relevant to managing employees. Sacht (2003) finds , web technologies have already provided employees direct access to each other, to HR, and to business information with such a simplicity and intelligence that every employee can contribute more directly to company results . Now, digital databases, voice and video, interactive tools and multimedia content is available to extend the techniques for capturing and spreading messages. As asserted by Ketlley and Reilly (2003 nature of HR departments has changed because of the development of e-HRM and employees tend to ask for advice rather than administrative assistance.

As per Towers Perrin (2006), the survey revealed that the greatest growth in HR technology is in the area of talent management. This is attributed to the fact that "talent management is front and centre on the organizational leadership agenda today". According to Shane (2009), e-HRM is seen as a facilitative tool that can be used to manage prospective and current talent to ensure that the appropriate skills are attracted into the business at the right time and that these skills are retained.

As per Keebler & Rhodes (2002), with self service applications companies are trying to meet the HRM needs of managers and employees and at the same time support the business objectives of the company. As per Ruta (2005), many of the reporting-type activities, earlier performed by human resource executive, can now be performed online by managers and staff themselves.

The first Cedar Crestone Asia Pacific-APAC HR Systems Survey (2008-2009) discovered that HR service centre approach enables organizations to serve more employees with their HR staff. As per Prabakaran (2012), recently, a second wave of ESS shifted the focus from these purely efficiency based applications towards empowering employees and managers to take more responsibility for their jobs and development. Career planning, skills profiles, learning, objective settings, appraisals and more and more analytics are increasingly popular with ESS applications. As per Corporate portal Mystro HR (2013), HR and payroll, empowering employees in their day-to-day functioning requires giving them anytime; anywhere access to basic employee facing processes as well access to information about the people in their teams. In absence of these, employees are left wondering and waste time chasing people and paper.

As per Sanayei and Mirzaei (2008), on their own desktops, line managers nowadays perform appraisals, evaluate employee costs, generate HR reports (turnover, absenteeism), process training requests and oversee competence management. Employees have access to everything they need to change and manage their personal files, plan their development, process financial documents and apply for new jobs. HRM professionals are facing a digital future. As per Yao, et.al (2010), e-HRM facilitates openness and transparency and most of the information is just only far away from one mouse click, it supports individual as well as group members in making decisions, especially in case of group decision making. E-HRM tools is used in information dissemination, opinion sharing and it facilitates the complete decision mechanism.

In the view of Armstrong (2003), e-HR provides the information required to manage HR processes. These may be core employee database and payroll systems but can be extended to include such systems as recruitment, e-learning, performance management and reward. The system may be web-based, enabling access to remote or online and at any time. The information provided by the e-HR process can be communicated across organizations. Sadagopalan (2004) observes that information systems to support the personnel function have once again taken the record keeping view rather than the decision support view particularly in the Indian context, it is limited to creating large databases often of questionable value and accuracy. Slowly this trend is changing at least in more progressive companies.

According to Mittal and Kumar (2006), with ICT, the consolidated information is available to the management for effective decision making instantaneously and they need not to wait for collection, compilation and consolidation of information, which used to take lot of time earlier As per Yao, et al. (2010), if e-HRM implemented and used correctly, can improve the quality of group decision making significantly by minimizing the negative effects of group decision-making and by maximizing the benefits of group collaboration and decision-making can act as an information support system.

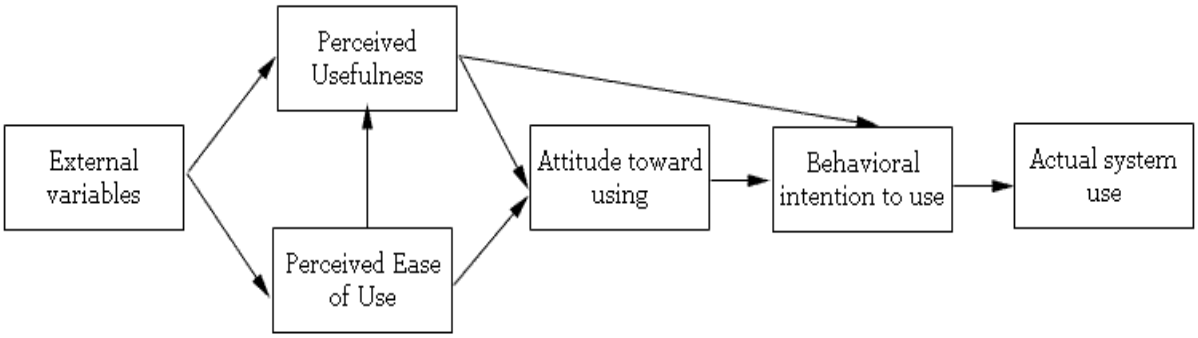
As per Awwal (2009), "ICT segregates data through applications and adequacy of hardware to meet user's required performance criteria today across wide area network and is providing new dimensions to decision making process". According to Mittal and Kumar (2006), e-HRM system has helped in early consolidation of accounts particularly in case of employee's expenses, salary, income tax returns and provident fund etc.

According to Keebler & Rhodes (2002) "e-HRM technology should not only be designed to make the HR processes as efficient and cheap as possible, but the e-HRM technology should be made useable too, to increase the service experience of the managers and employees and in this way a client service improvement of the HR system can be achieved". According to Watson Wyatt's (2000) survey, web technology is the predominant method for delivering HR-related services to employees and managers, and offers significant opportunities to improve communication, knowledge sharing and HR delivery systems. E-HRM also involves many more stakeholders besides human resource in the HR department and the business and also includes job applicants and employees from all levels.

As per Sacht (2003), "e-HRM tools are not yet available everywhere in the developing world, they are spreading rapidly and present a unique opportunity for developing countries to benefit most from the technological revolution now unfolding: low-cost telecommunications systems can help countries to leapfrog ahead through distance education, distance health services, and much better access to markets and private sector partners abroad". The Aberdeen Group (2009) found that best in class organizations improved employee satisfaction by an average of 9% through improved HR services.

2.6.1 E-HRM and Technology Acceptance Model (TAM) -The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. Perceived usefulness - defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance". Perceived ease-of-use - Davis defined this as "the degree to which a person believes that using a particular system would be free from effort".

FIGURE- 2.10: Technology Acceptance Model (TAM)



Source- Davis, F. D., (1989), "Perceived Usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, pp. 318-340

According to Ruel (2001), it is expected that when end-user understand the e-HRM goals and the intended effects of the e-HRM technology, it will positively affect the use of the e-HRM technology which is expected to lead to the intended use of the technology. Venkatesh, et al. (2003), in their study mentions that usefulness is more strongly linked to behavior intentions of user and actual system use than ease of use.

As per Bondarouk, T. (2004) the goals that drive parties, stakeholders, and individuals in organizations will set a framework for the real e-HRM applications and approaches to be implemented. Ruta (2005), in his study demonstrated that usage of HRIS increased when IT user acceptance principle were integrated with change management principles.

Voermans and Veldhovern (2007) attitudes towards adoption, using TAM with a strategic preference more likely to have a positive attitude to e-HRM, employee champion role preferred more negative, do not find positive correlation between administration role and e-HRM. The preliminary investigation by Yusuf et al. (2011) made on perceived usefulness, perceived ease of use and attitude towards using e-HRM illustrates, e-HRM provides the human resource function with the opportunity to create new avenues for contributing to organizational success**.**

Most of research on e-HRM has been done in developed economies like United States and European Union. Netherland is pioneer and far ahead in e-HRM research. Very little empirical study has been from emerging countries like India. India is politically, economically socially and technically very different from the developed economies. As there are much distinction in business environment and the management practices between developed economies and India, there are always possibilities of different research results. There is no empirical evidence of level of prevalence of e-HRM and different e-HRM instruments and tools being used in Indian context. There is no empirical evidence in literature which examines the impact of e-HRM in terms of strategic capability. Available research literature does not cover the impact of e-HRM in terms of financial contribution, internal stake holder satisfaction.

CHAPTER-3

RECENT TRENDS OF E-HRM IN INDIAN ORGANIZATIONS

Application of information and communication technology (ICT) in HR function in Indian organizations can be traced back to introduction of computers way back in nineties. Human resource department is considered one of the early adopter of information and communication technology but it was fragmented, it took time in integrating and assimilating HR process, mechanism and system. In initial days it was confined to salary, personal data administration and other traditional HR functions through HR functional application software. With arrival of net and World Wide Web (WWW) and mail services, sharing of information between individuals and with masses became easy and cost effective. Development of intranet, self service and ERP business solutions are the hall mark of application of information and communication technology to HRM function. Now HRM services to different stakeholders are provided in touch screen smart phone base.

Web 2.0 technology or social networking is the current developments in e-HRM globally. It is quite dissimilar from the past Web 1.0 technology which was altogether dealt with unidirectional flow of the data, text, audio, video, content, any message or information. Network technologies offer stage for open contribution, capture brain power of individuals or groups offer access to network through various instruments. Web 2.0 is a mechanism that facilitates groupism and sense of community and connects with common people. It entices public to come at a common platform share feelings and have dialogues. Web 2.0 is based on increased participation and involvement among service consumers. This is quite visible and can be noticed in online games, blogs, social networking, Wikipedia, social bookmarking, and different multimedia channels. This trend is now seen in Indian organizations especially for knowledge sharing, knowledge management, recruitment and branding. Experience shows use of Web 2.0 technology has reduced HR related queries and complaint, thus providing an instrument in the hand of HR professional to deliver its services.

3.1 Emerging Trends of e-HRM-

E-HRM is the use of technical know-how to augment the value of HR delivery in a business is not new to Indian organisations. But what started with automation of basic HR transactions is now a key constituent in the HR department's much publicized transformation into a strategic associate. As per HRD Survey (Business Today-Gallup), the major concerns of the managers regarding their companies HRD practices included-lack of proper recruitment, absence of sound performance appraisal systems, low salary, lack of team spirit, lack of career management, absence of organizational commitment and low job satisfaction level. Most of the HR managers along with line managers conceive that there was a need for human resource management systems which incorporates all the fragmented human resource functional applications in integrated form.

With integration of information and communication technology with HR function different vendors started selling HR functional application software and at later stage integrated HR software suite applications. Now most organizations have integrated their HR function with business solutions in the form of ERP and different companies are providing ERP solutions in the name of SAP, Baan, People soft etc

The early birds in implementing and it seems that in benefiting from the e-HRM initiatives have been organization in the information technology, insurance, banking and outsourcing where numbers of employees were very high. But now even traditional organizations like FMCG, automobile, energy, education are following the same trail. Several companies like Hero Honda, Ranbaxy. Dabur, NTPC, LIC, Moser Baer, Maruti Suzuki, SBI, Tata Motors, have implemented IT to enhance their HR functionalities.

In Indian business most repeatedly used names are "SAP", "BAAN" and "People Soft". These packages are tailor made and can tackle exclusive needs of companies. A substantial number of companies in India are currently tuned in to SAP alone. Some prominent names among these are ONGC, Asian Paints, L&T, IOC, SBI, HPCL, Aditya Birla Group, Ruia Group, Tata Sons, Jet Airways, GM, Eicher, Bajaj, Wipro, Infosys, Siemens, NTPC, Mahindra, BEL, Reliance, and many more.

Siemens has implemented SAP R/3 –ERP package for ONGC for human resource and facility management function, one of the single largest human resource packages in the India. SAP India Private Limited provides Mahindra Group ERP solution for consolidation of the group's systems. Common processes across the Mahindra Group of companies, such as human resources, employee services, administration, finance, procurement and analytics, were standardized on the SAP technology platform. Wipro Infotech Limited implemented "MySAP" Business Suite that included human resources, business intelligence and other modules in Bharat Electronics Limited.

Oracle "HRMS" has lots of clients in India and with the help of Oracle "HRMS", organizations manage varied aspects of their workforce such as payroll and expense management, recruitments, hiring, benefit administration, and training and performance management. Amongst the popular HR Packages "EnTrust HR & Payroll" solution is offered by Comtel Technologies and "Payroll Champion" from Process Weaver. Greytip Software provides HR and Payroll Software Solutions, called "Folklore HRIS" for small, medium and large organizations.

"Ramco HCM with Analytics", an end-to end all-inclusive way out for Human Capital Management drives the renovation and computerization of HR service delivery and enables best-practices of workforce management. It also helps organizations to take critical business decisions with confidence, synchronize financial and operational human capital strategies and develop a targeted talent management plan. This deal with the functions for time and attendance, absence management, employee data management, labor budgeting, forecasting, scheduling and task management, pay roll management, training, succession planning, performance appraisal and talent acquisition.

Advanced Payroll Processing & Live Employee Career management, Appraisal, Recruitment and Training (APPLECART), offered by Cosmosoft Technologies, offers a complete solution for managing the work force with powerful querying and reporting features. The various subsystems under the APPLECART are traditional personnel management, payroll processing, absence and leave management, tax computation, personal loan management.

Adrenalin offers a complete online HR & Payroll solution. It offers customized packages to suit the business needs and budgets, "Adrenalin Basic", "Adrenalin Suite", "Adrenalin Smart-build" and "Adrenalin SaaS". Saviour has legal activities of all types of payroll. The "EmpXtrack Payroll" is based on SaaS platform and caters to small business to large enterprises. Altec Ipc Information Processing Ltd offers a software package – "Agile e-hr". "Agile e-hr" payroll is multi-user software and has an advantage that it can work in multi currency.

Optimizer Consultancy Private Limited is in the business of payroll processing and HR related activities. "HumaNET" is one of the top growing HR software in the business. With back-to-back HR functions it inculcates from hiring to retiring, all the sections. It also has the services available on SaaS. "HumaNET" payroll is a multi company and multi location product. Paradyne Infotech developed integrated software suite "HrWorQ" which is a suite of human resource information management systems. Patni Computers developed Human Resource Management Systems (HRMS) as integrated system enables interface between human resource management and information technology. Company has also developed a web-based application to follow issues raised by users.

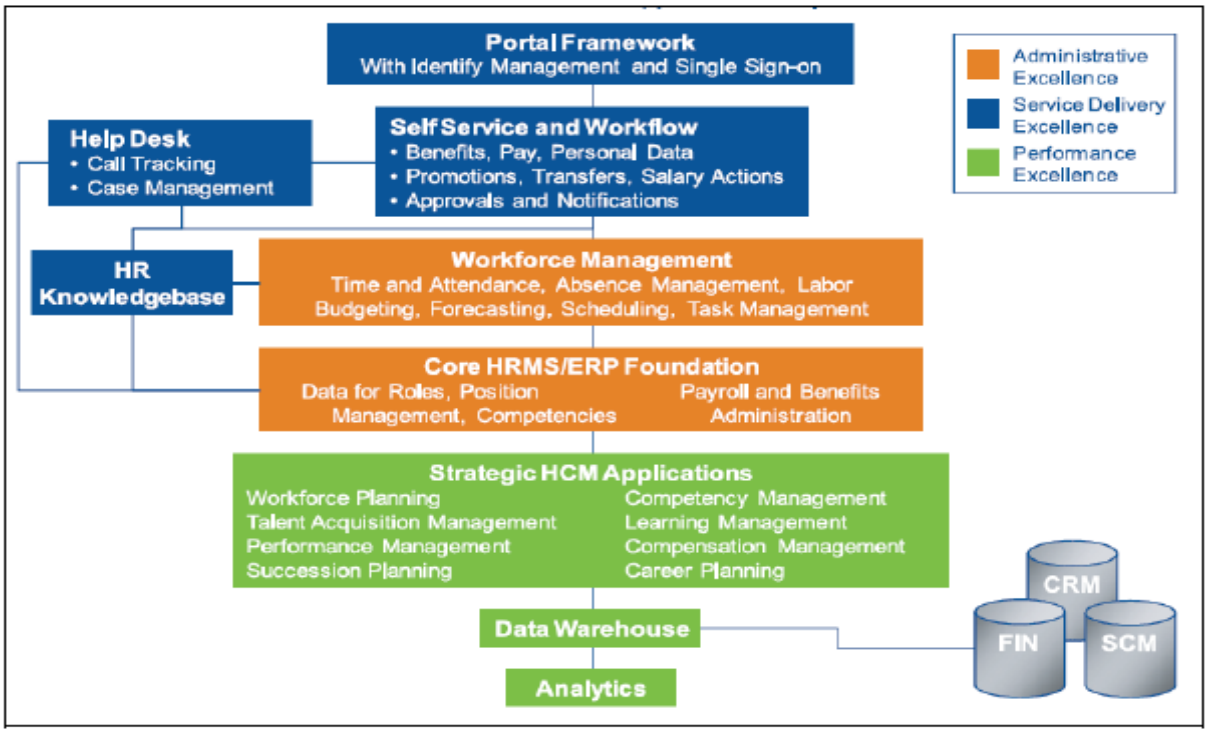
Kenexa Technologies launched, "e-human capital management" is a complete human resources (HR) recruiting and maintenance solution, which can be incorporated impeccably with software structural design and enterprise resource planning systems and solution contains modules such as applicant tracking, telephonic round screening, and knowledge, skill and attitude evaluation. Nimbus Systems (P) Limited developed "Crown24K", a complete enterprise resource planning (ERP) solution, supported by the Microsoft Dynamics AX4.0, ERP software for gem and jewellery business**.**

It has been seen during the survey, the application of e-HRM tools is mostly confined to ERP enabled HR intranet and self services (ESS/MSS) applications, HR portal application has presence in some cases but IVR and HR extranet has very limited applications, so it becomes imperative as a part of research study to elaborate ERP based e-HRM model. As a part of case study in selected eight organizations there are cases in which organizations are using digital platform in a non conventional manner in providing some special HR related services. The study

in its endeavor provides some standard model of e-HRM and unique/ customized practices adopted by select Indian organizations.

3.2. **Model of HCM Excellence** - The Cedar Crestone survey (2008), mentions the present position of technology adopted by human resource function across various parts of the world has Enterprise Resource Planning (ERP) based Human Resource Management System (HRMS). The basic framework of most the HRMS model adopted by different organizations globally has been depicted in the figure 3.1.

Figure-3.1: Human Resource Management System (ERP-Support)



Source- CedarCrestone (2008), "CedarCrestone 2008-2009 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics - 1st Survey focused on Asia and Australia (APAC)", Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2008-2009_APAC_WP.pdf

The figure -3.1 elaborates the blueprint of ERP-based HRMS and its brief description as follows.

A) Administrative Excellence – This module has two parts.

- Core Human Resource Management System **(C**HRMS) Foundation- This module deals with files linked to wages and earnings and individual data administration (post, position, academic and professional qualification, competencies, salary and benefits) and is accumulated and made readily accessible to various clients.

- Personnel/Workforce Management- This module handles operations of time office like entry and exit time, absence, leave and attendance, labor budgeting, forecasting, scheduling and task management. This is very important in large organizations where shifts are in operation. In these components the administrative superiority is attained through computerization in functioning of HRM.

B) Service Delivery Excellence- This module has two parts.

- Portal Framework- Establishments make human resource services accessible through portal with solitary sign in facility with call centre, interactive voice response and self service tools. At portal framework services are either operational/transaction or relational/traditional. It offers the routing link to Employee self service and Manager Self Service. It assists in role clarity and openness which is highly demanded.

- Self Service and Workflow - Employee self service and Manager Self Service is the best feature of this unit and one of the main and highly sought after instrument to manage life events. Reward and benefits, salary and individual data administration, transfers and posting, and authorizations and announcements are the few areas which can be managed by self service applications. This inculcates identity administration and solitary sign-on. It is the initial steps to rationalize workflow by streamlining, 24*7 facility, digital office, empowerment, which was highly desired.

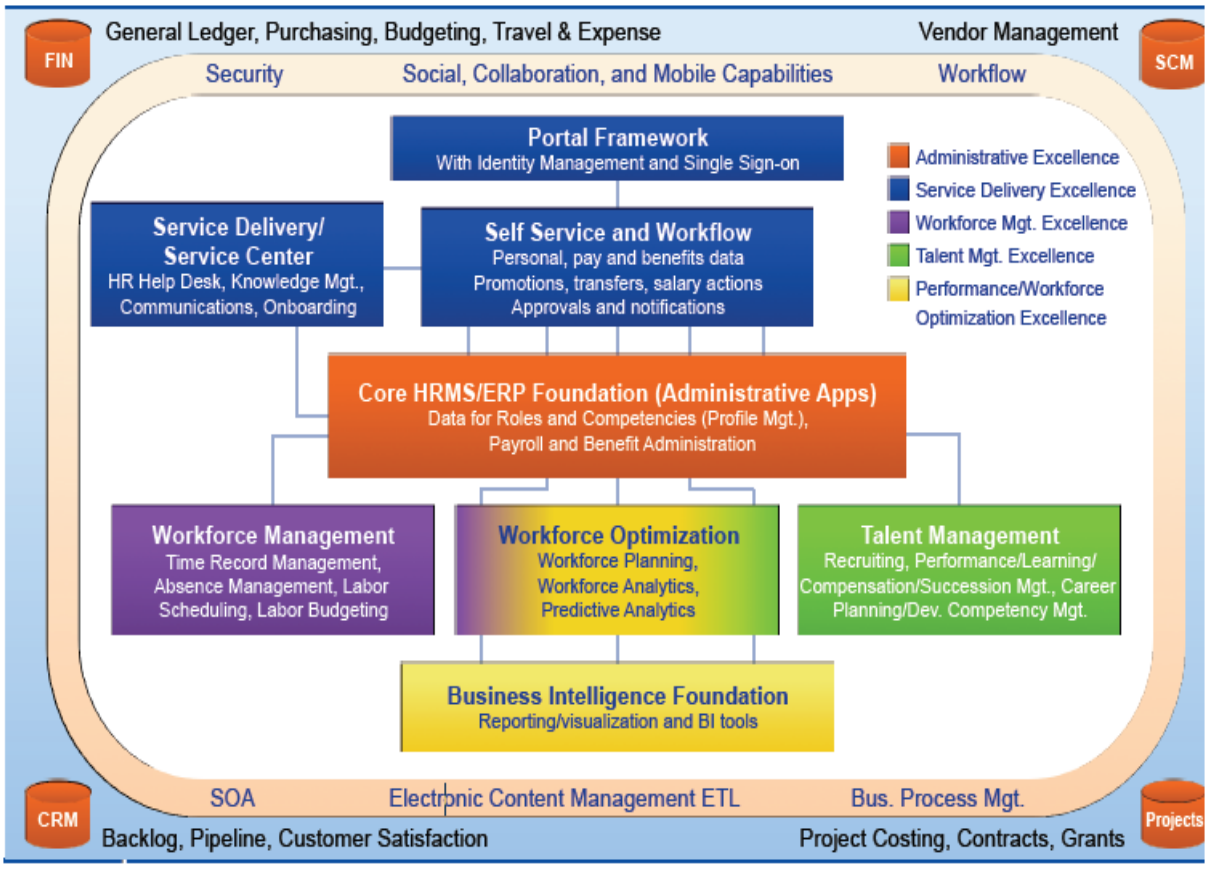
C) Performance Excellence

This part of Enterprise Resource Planning assists establishments for higher order transformational outlook with human resource planning, attracting, hiring, compensation and performance management, succession planning, proficiency and knowledge management,

training and learning management, career administration and all other functions. Performance Excellence module brings data from various sources and integrates enables measurement and reporting of workforce performance.

As per CedarCrestone (2013) HR Systems Survey testimony with time there had been significant alterations that have in use in Human Capital Management model (HCM). Acceptance of web 2.0 technology and Smartphone instruments persuades more client acceptance of human resource technical knowhow. Higher the adoption shows in higher value attained from cost incurred mean more value for the money. In total adoption of web 2.0 technology enabled system enhances 50% from 6% in 2012 to 9% in 2013. Recruitment is the most sought after function continue to be highly acceptable. Mobile phone-facilitated route acceptance saw up thrust 67% from 6% in 2012 to 10% in 2013. Recruiting processes for recruiting staff continue as leading mobile-enabled process. The two key parts which receiving preference in Human Capital Management model is retaining or talent management and business intelligence.

Figure-3.2: Outline of CedarCrestone Human Capital Management (HCM) application



Source- CedarCrestone (2013), "CedarCrestone 2013-2014 HR Systems Survey: HR Technologies, Service Delivery Approaches and Metrics" – 16th Annual Edition, Retrieved from http://www.cedarcrestone.com/media/whitepapers/CedarCrestone_2013-HRSS-HRTech-100713.pdf

3.3 E-HRM in select Indian organizations- The research in its endeavor has selected Indian organization with mixed profile as sample organization and has compiled the different HR activity performed by these organizations in electronic platform. The corporate portal of these organizations had been the major source of the information.

3.3.1Coal India Limited (**CIL**) – CIL is a coal mining company under government of India. It has it's headquarter at Kolkata, West Bengal. Coal India has eight subsidiaries, which is situated in India and abroad and fulfills 81% of coal requirement of country. Coal India Limited is one of the largest coal producer companies in the world. CIL was nationalized by government of India in 1970 to cater energy requirement and to have harmonious industrial relation with aim of social welfare. Few years back Coal India Ltd was listed with stock exchange; still union government holds 90% of its equity. The operation of the company is controlled by Ministry of Coal. In year 2011 CIL was conferred with Maharatna status by central Government. CIL and its subsidiaries have 357,926 (tentative) employees as on 31 March 2014, out of which 304,792 were operatives, 33,542 were supervisors and 19,592 were executives.

Figure-3.3: Coal India Corporate Portal

Source-https://www.coalindia.in/

Coal India in their corporate portal has provided a link "Our people", when clicked four options appear.

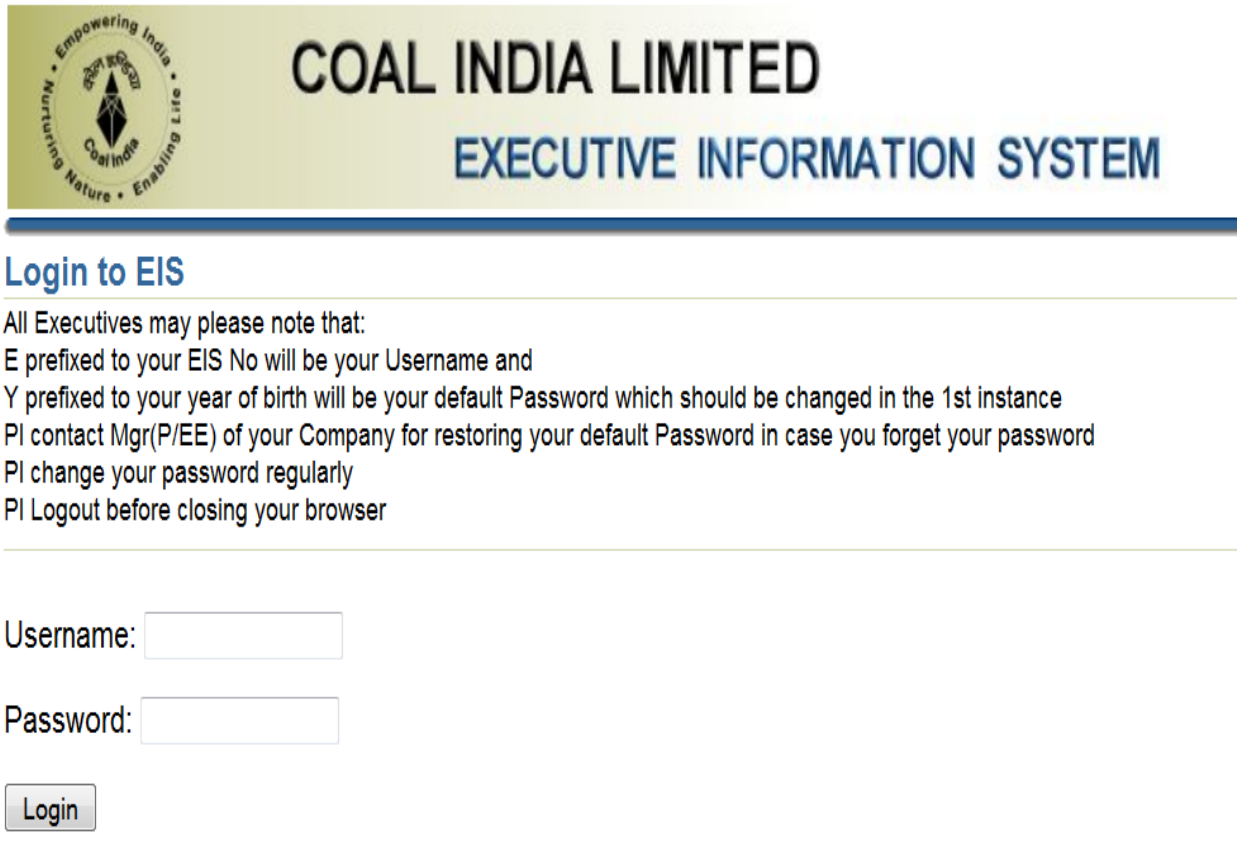
1. CIL HR- Provides information related to Human Resource Development in CIL with headings Technical Training, Management Training, Transformation Training, and General Development Training.

2. Employee welfare – Information related to different welfare schemes of the organization.

3. Careers- Offers connection to diverse bulletins/ messages associated to posting, promotion, grade history, seniority list, departmental selection

4. Executive Information System (EIS) - All the executives of Coal India Limited and its group companies can have a sight of their individual data existing in Executive Information System, like their Personnel Master File, Position/ Grade account, Posting History, Qualification etc. Here an executive can view merely his private information. This module has architecture to function steadily on the public domain utilizing a web link. The client verification mechanism is totally based on oracle support. The Executive Information System (EIS) is for all below board level executives of CIL and addressing transaction related issues to address the complexities arising out of changes in policies.

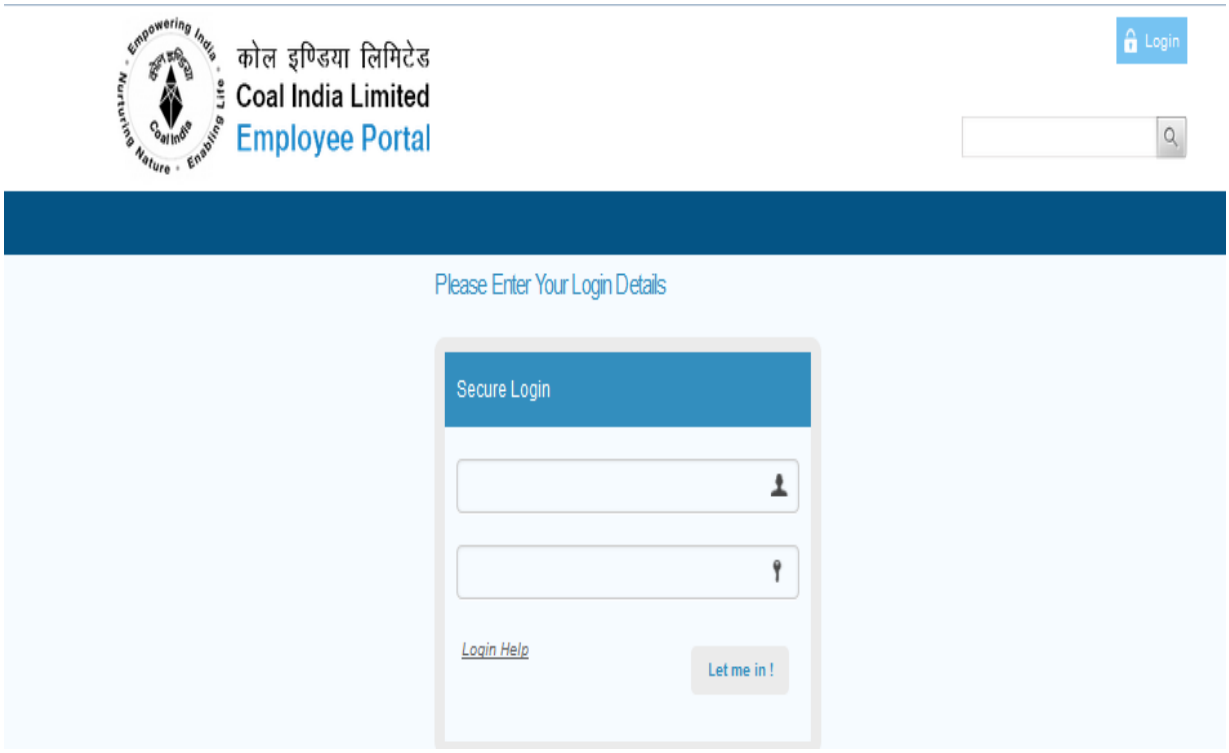
Figue-3.4: Coal India- Executive Information System - Online



Source - http://210.212.20.44/eis/faces/login.jsp

Coal India in their corporate portal has provided a link “Career with CIL”, which is for external job seekers and provides details of vacancy and acts like recruitment portal where on line applications can be filled and different forms can be downloaded. Coal India in their corporate portal has provided a link to employee log in, when clicked the employee portal opens where employee are supposed to enter their log in details

Figure-3.5: Coal India Employee Portal



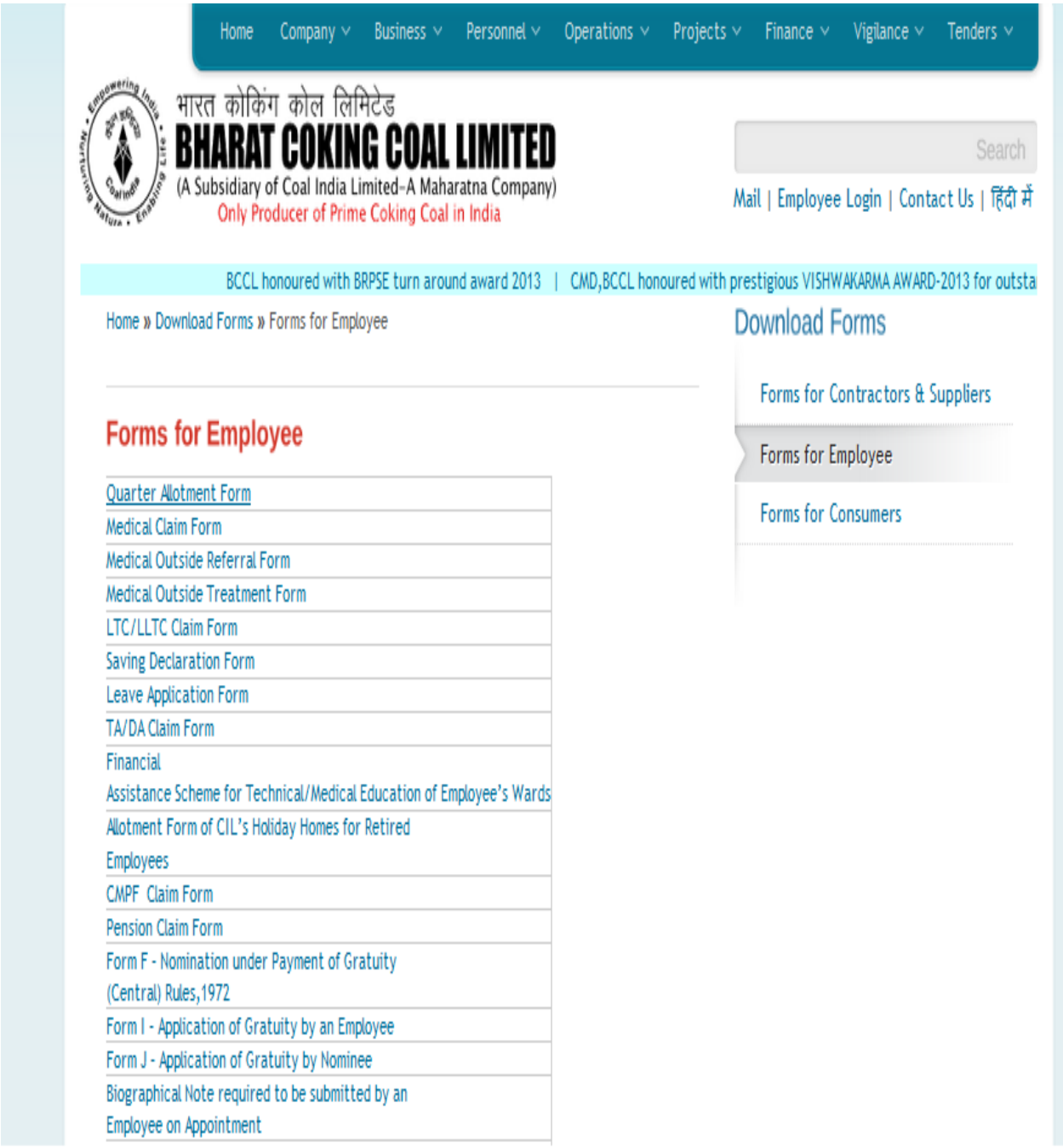
Source-https://www.coalindia.in/intranet/signin/tabid/935/language/en-US/Default.aspx?returnurl=%2fintranet%2fen-us%2fhome.aspx

BCCL (subsidiary of CIL) in their corporate portal has provided a link ‘personnel’ which provides link to other HR activities. This basically acts like notice board and provides a link to Executive Information System and routed to centralized CIL portal. Portal provides link to download various forms useful to employee and executives for different HR related activity.

Figure-3.6: BCCL –Corporate Portal

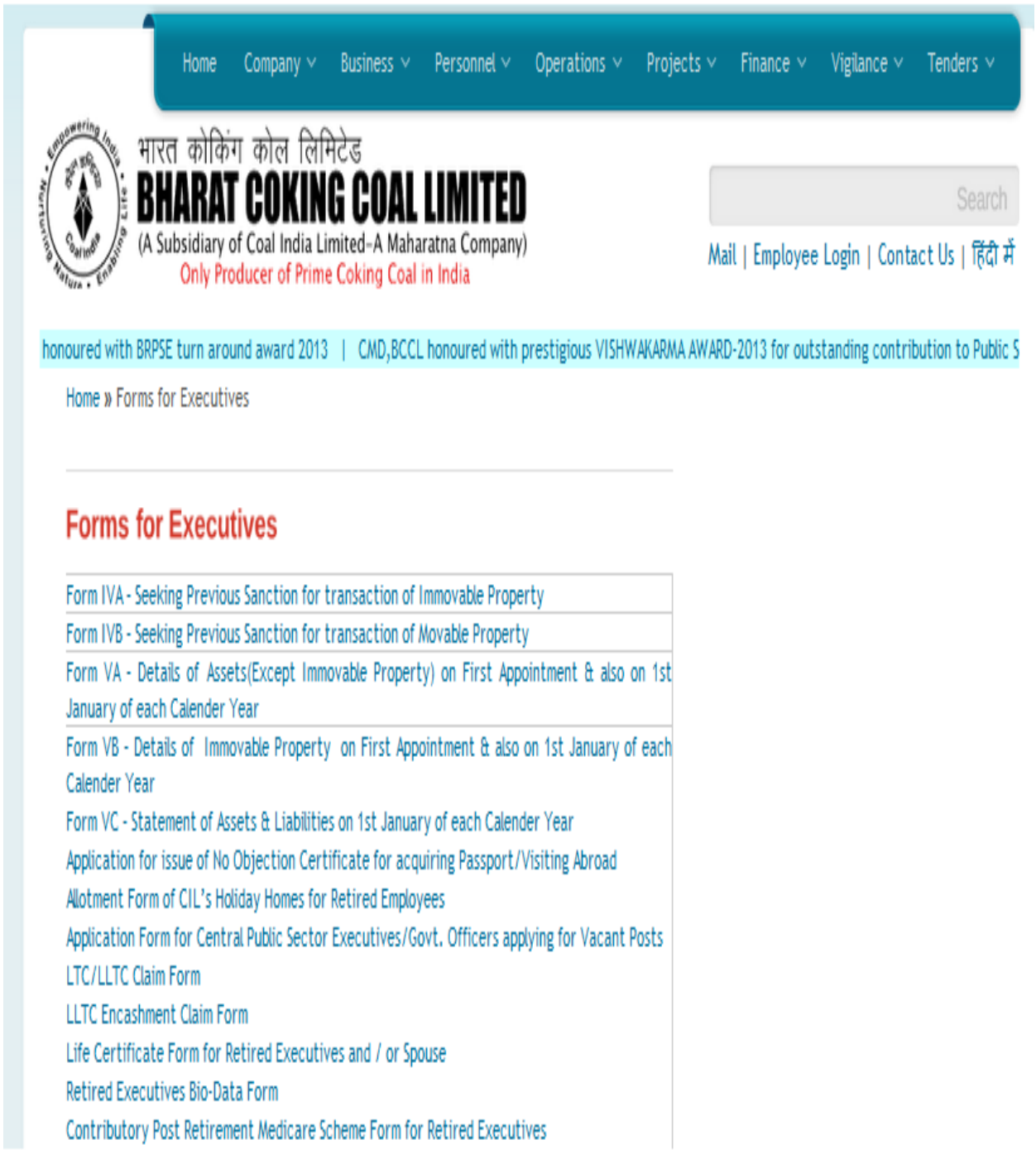
Source- http://www.bccl.gov.in/#

Figure-3.7: BCCL –Download Forms (Employee)



Source- **http://www.bccl.gov.in/?page_id=306**

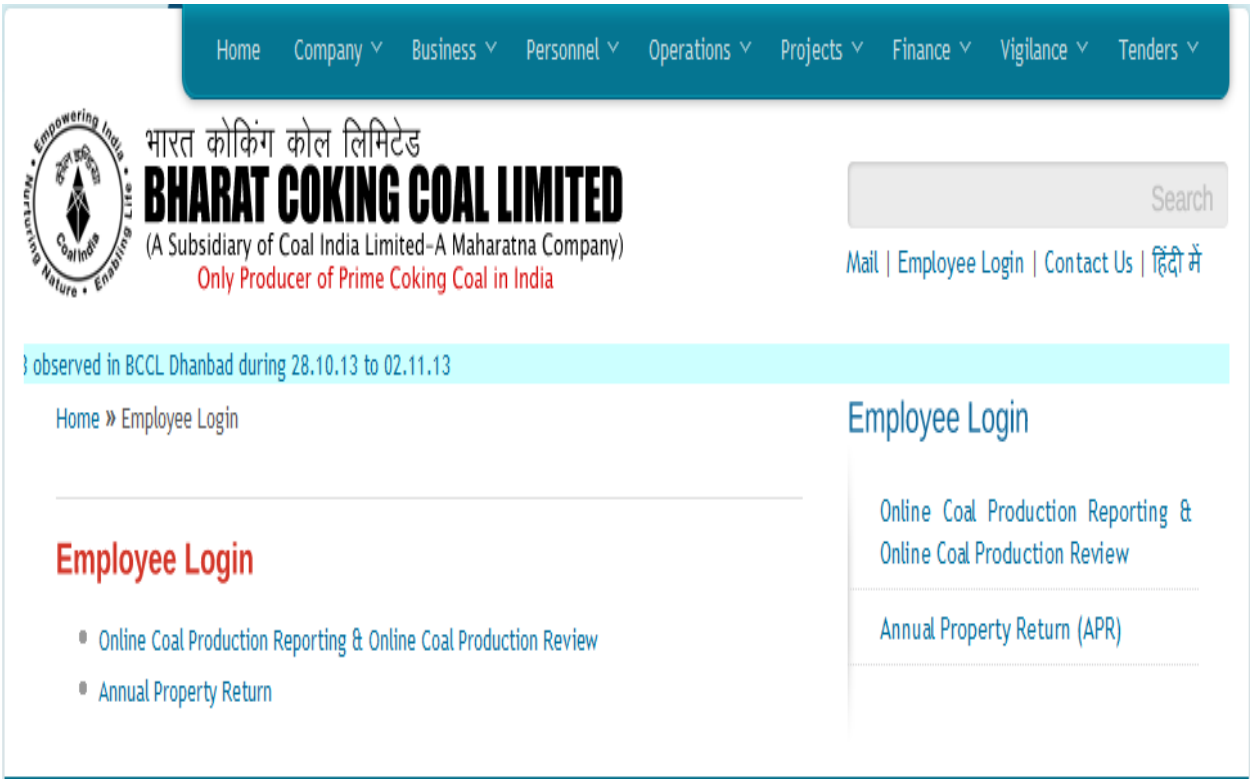
Figure-3.8: BCCL –Download Forms (Executive)



Source- **http://www.bccl.gov.in/?page_id=771**

The organization has an Employee log in but it is confined to online coal production reporting and online coal production review. The organization has provided a link for annual property return.

Figure 3.9: BCCL –Employee log in (Production and Reporting)



Source-http://www.bccl.gov.in/?page_id=1534

Central Mine Planning and Design Institute Limited (CMPDI) one of the subsidiaries of CIL has built an extremely protected intranet that uses internet technical knowhow to disseminate and compile information, and for computing services within the organization. CMPDI intranet is very user-friendly and provides a platform for very effective and efficient internal communiqué, liaisoning and collaboration. A number of software has been developed internally and, caters the basic necessities of employees. The network of CMPDI in common has special provisions for verification and authorization. In fact CMPDI endorses the fact automation and modernization is the only solution to enhance efficiency and effectiveness. LAN is used for intra office

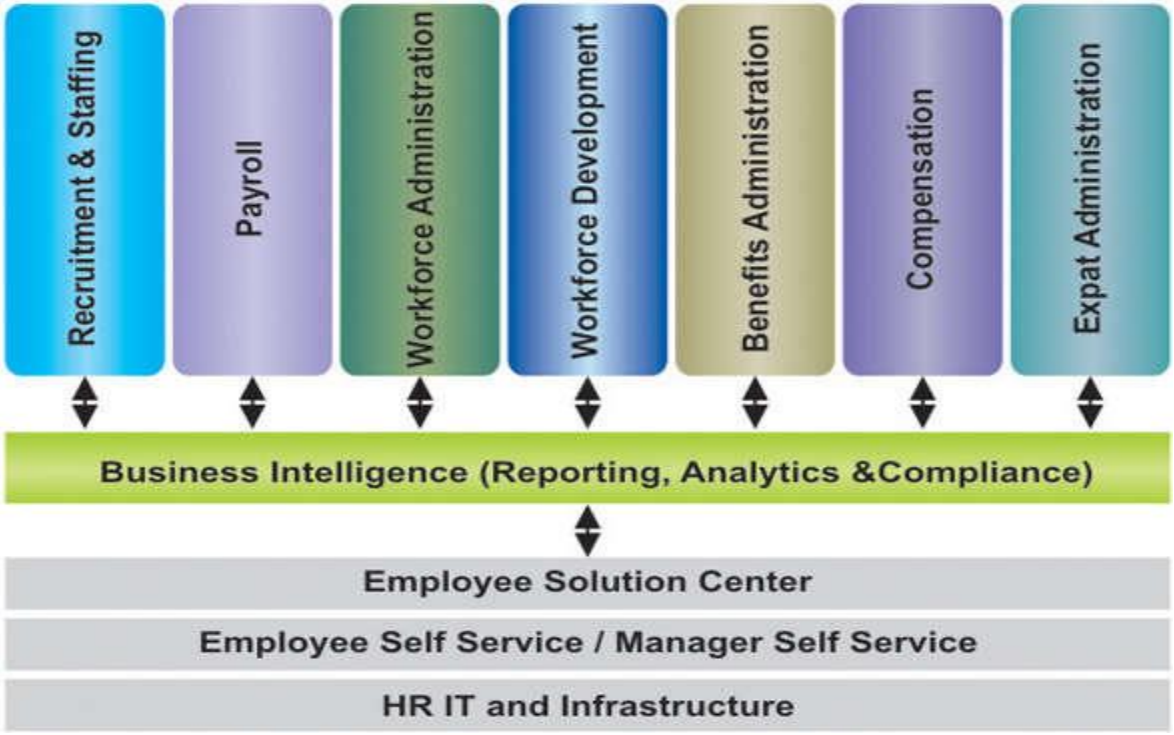
communication and thought as the heart of software packages being used at Central Mine Planning and Design Institute Limited (CMPDI).

Other subsidiaries of CIL have more or less similar applicability of ICT for providing HR related services. It is more of operational, publishing of information nature. ESS, automation, integration of HR, mutation of entries, concept of paperless office and many more is lacking.

3.3.2HCL – HCL is Technology Company headquartered at Noida, Uttar Pradesh. HCL Technologies Limited is flagship of HCL, is a global IT services provider. It has networked offices at several locations in India and abroad. It's offices are spread over 26 countries and provides services to different sectors and segments of economy which includes manufacturing, telecom, aviation, military equipment and services, power and energy, mining, metallurgy, software vendors, services, servers & storage, automobile, transportation and logistics, banking, insurance, financial services, electronic and print media, entertainment, retail, warehousing, electronics, education, government, biotechnology & healthcare, medical equipments, semiconductors, travel and tourism. In last few years HCL has shown tremendous potential as a software and technology company and has outperformed its peers both in revenue generation as well as on bourses and is considered one of the fastest growing technology companies not only in India but globally. HCL is perfect blend of expertise, technical knowhow, and advanced management practices and philosophy that unleashed the thinking of empowered employees. The innovative practices like "Employees first customer second", is a very different approach that acts like a catalyst and driving force of 88,000 plus employees, and solves customers problem.

Over a period of time HCL Technologies Limited felt necessities of integrated business solutions for seamless and uninterrupted operations. SAP R/3 enterprise resource planning (ERP) was set up for efficient and effective management of information across different locations and centers globally. SAP R/3 has standardized and incorporated all the processes of the company across different functions. HR function of HCL provides in a class HR domain capability, unique practice, mechanism & processes, best-in-class IT infrastructure on HR ERP platform. Integrated human software suite application facilitates different stakeholder in accessing streamlined, improved, transparent and flexible services in 24*7 mode, hence improved satisfaction level.

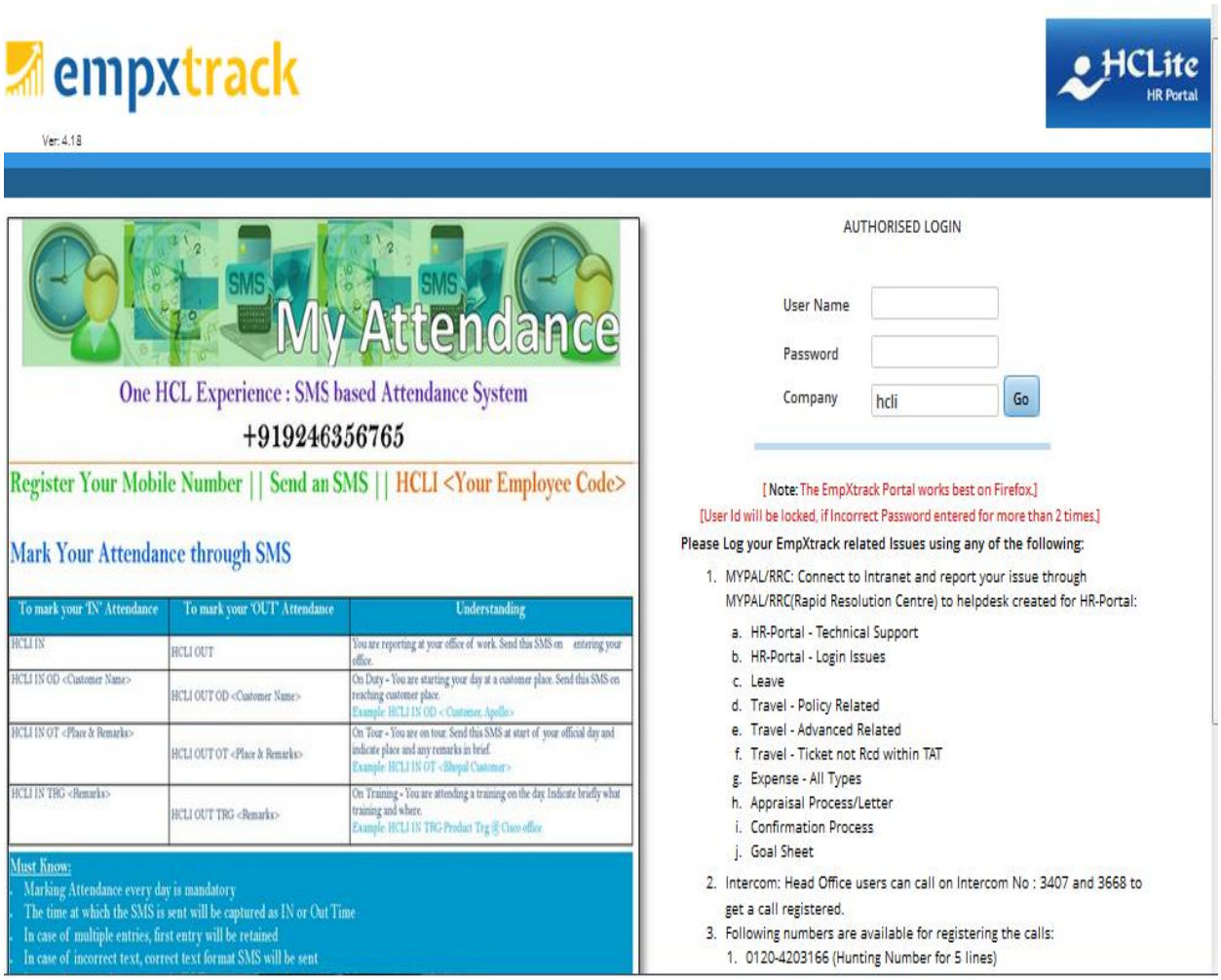
Figure-3.10: Human Resource Blueprint (HCL)



Source-http://www.hcltech.com/business-services/human-resource-outsourcing

As per Corporate portal HCL Technologies (2014), HCL have various link in their corporate intranet and group network portals for human resources to express their intellectual feelings and learn symbiotically. A portal known as "Women Connect" is a shared set of connections that aspires to support an all encompassing and gender-unbiased employment climate where each human being has the chance to share, propose something different in policy formation, and guide for modification and alteration. HCL provides career guidance and other sources via portal www.hclwomen.com. A distinctive stage known as "Genie "acts like a custodian and facilitates staffs rent a home, hotel bookings, tickets for movie or flights, etc. The trainers or instructors are sponsored and are accessible round the clock through either mail or phone. At HCL female employee can harness specific counseling provisions to stabilize for work life balance. Any recommendation or proposals linked to code of conduct can be shared with ethicsdialogue@hcl.com, a platform to assist staff handle ethical impasses. Lateral recruits of HCL on some occasions provided online training.

Figure-3.11: Human Resource Portal (HCLite)



Source-https://hclite.in/hrportal/logon.do?activity=display

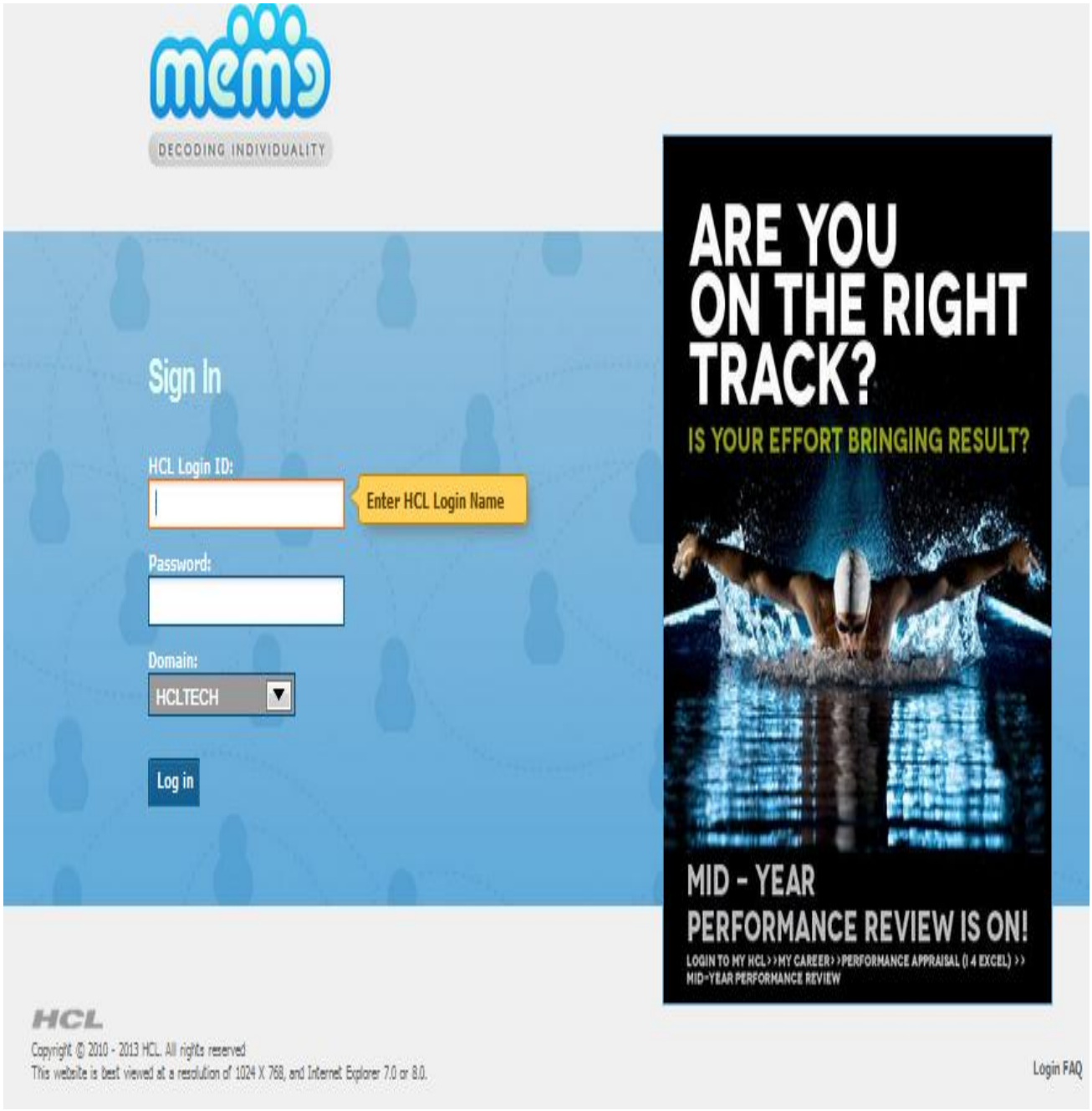
As per corporate portal HCL Technologies (2014), now a day, business are under pressure to handle communiqués of the new generation employees who are experts in handling digital word and technology savvy and innovative. HCL understood the need of the day and to garner the advantages from close alliance at place of work, they have to think at the innovative ways to connect these young personnel and build a business of coming days. With a goal to create strong communication conduits with new breed employee and to exploit their vigor effectively and efficiently company formed a social networking site which was vibrant and interactive in character. By this pioneering thought, a stage where they can exchange their ideas, thoughts, views, and contribute in debates globally, brand new platform known as " MEME" was formed.

HCL MEME is a stage for personnel to go from official to social @ work. HCL MEME is employee first customer second (EFCS) 2.0 scheme but MEME has led to employee driven, management embraced (EDME) thought. This is a social networking site formed by staff. One of the special characteristics of MEME, it is governed by employees not by the company. MEME has already more than 60,000 employees as members. MEME had been successful in idea creation while discussing issue for HCL's CIO straight talk, a stage initiated in year 2010 to support exchange of practical ideas amongst senior IT professionals on a broad range of organizational and technology issues. MEME clients utilized this stage really well by having a straight interaction with a range of enabling departments like personnel function. Human resource linked lots of inquiry have been solved. MEME has facilitated HR function in reducing the query solving time by 90%. This is being used by different departments to commence surveys and feedback openly in transparent ways.

As per Singh, N. (2014), the biggest and most vital reason of growth of MEME is freedom of thought, and liberty it ensures to employee when they post or share audio, video or text**.** As per chief HR officer of HCL Technologies "Pirthvi Shergill" with inception MEME, it was all around accepted by the employees of the organization and lot of innovative ideas just came up from myriad projects and people working in diverse field. A lot of ideas which was shared on MEME is now a part and parcel of business and has been actually implemented. In first seven days of inception of MEME more than thirty thousand of staff joined from across the globe.

At the earliest these employees started sharing news, views, ideas, and comments and started loading file, video, audio and other activities fit for social media. Presently more than seventy five thousand of employee are connected and utilizing MEME in 24*7 mode. From career perspective it is of great help as employee can aspire for present and upcoming roles and responsibilities through Career Connect. Career Connect facilitates employee in achieving carrier goals in several way and has also provision of employee referrals. Through it employee can do their SWOT analysis. The overall integration of workforce globally the company is confirming its faith of all inclusive by 'inverting the pyramid of command'.

Figure-3.12: HCL (MEME)



Source -https://meme.hcl.com/

HCL Comnet is IT services management subsidiary of HCL handles projects, infrastructure, domain execution, network & communiqué linked functions. Way back in 2004, the company initiated an internet based instrument to link employee known as Smart Business Manager

(SBM). This is a workflow- based computerization and communication program, which links all personnel globally. It follows scrutinizes and renew company's functioning encompassing various business applications such as ERP, personnel and sales force management. It is a real time reporting and time monitoring tool, which is transparent.

As per Corporate portal HCL Comnet (2014), E-HRM is to enhance personnel efficiency, it guarantee a free flow work culture. Human resources at HCL Comnet are self motivated functions in the direction of employee goals. E-HR is all-inclusive information instrument compiles every staff's information through web. The safety has been provided via exclusive username and password, the web based tracker enrolls salary aspect; leave administration, training and learning calendar, effort tracker, financial, credit and money matters are all present to the personnel in 24X7 mode at the just a hit of the mouse or keypad.

HCL Comnet "Smart service desk" is a one-of-a-kind human resource scheme for its workforce. This eradicates the requirement for a member of staff to actually go to any division for any trouble that one is having. Smart Service Desk, is a linkage present on the computer, which can be accessed via intranet, in case of any crisis. The problem could be small or complex, the procedure is same.

- Open the "Trouble Ticket".

-Select the nature of a problem, mentioning the department.

- Issue it to the suitable person as specified through selection.

-Mention nature of problem – query, problem or request.

-This trouble ticket is forwarded to the designated section with copies to that section head,

- Section head allocates the difficulty to a suitable employee.

-The employee has been provided a set time limit to solve the problem – called concluding the trouble-ticket.

-The issue can closed only if either the individual, raising the crisis cancels the appeal or when the crisis has been solved.

-The reaction time is noted which is replicated in his performance appraisal.

-This characteristic makes sure that whatsoever the difficulty is, staff time/ competence should not suffer due to hurdles/ troubles beyond one's control.

For HCL Comnet the employees (internal customers) are as significant as the external clients**.** Through the Smart Service Desk, HCL Comnet aims to eliminate the need for internal customers to chase up other departments for any problem that they have. It not only increases efficiency but also ensures complete transparency – the underlying corporate philosophy of the company.

To gratify the high-speed information requirement of the staff; the intranet has been provided to all the personnel on their computer screen. Human resources can access intranet, which is renewed at regular intervals and has information that is centered to personal and professional growth. The sections under which information is regularly updated are technologies, new accounts, business plans, returns, future prospect, notice boards, business bulletin etc.

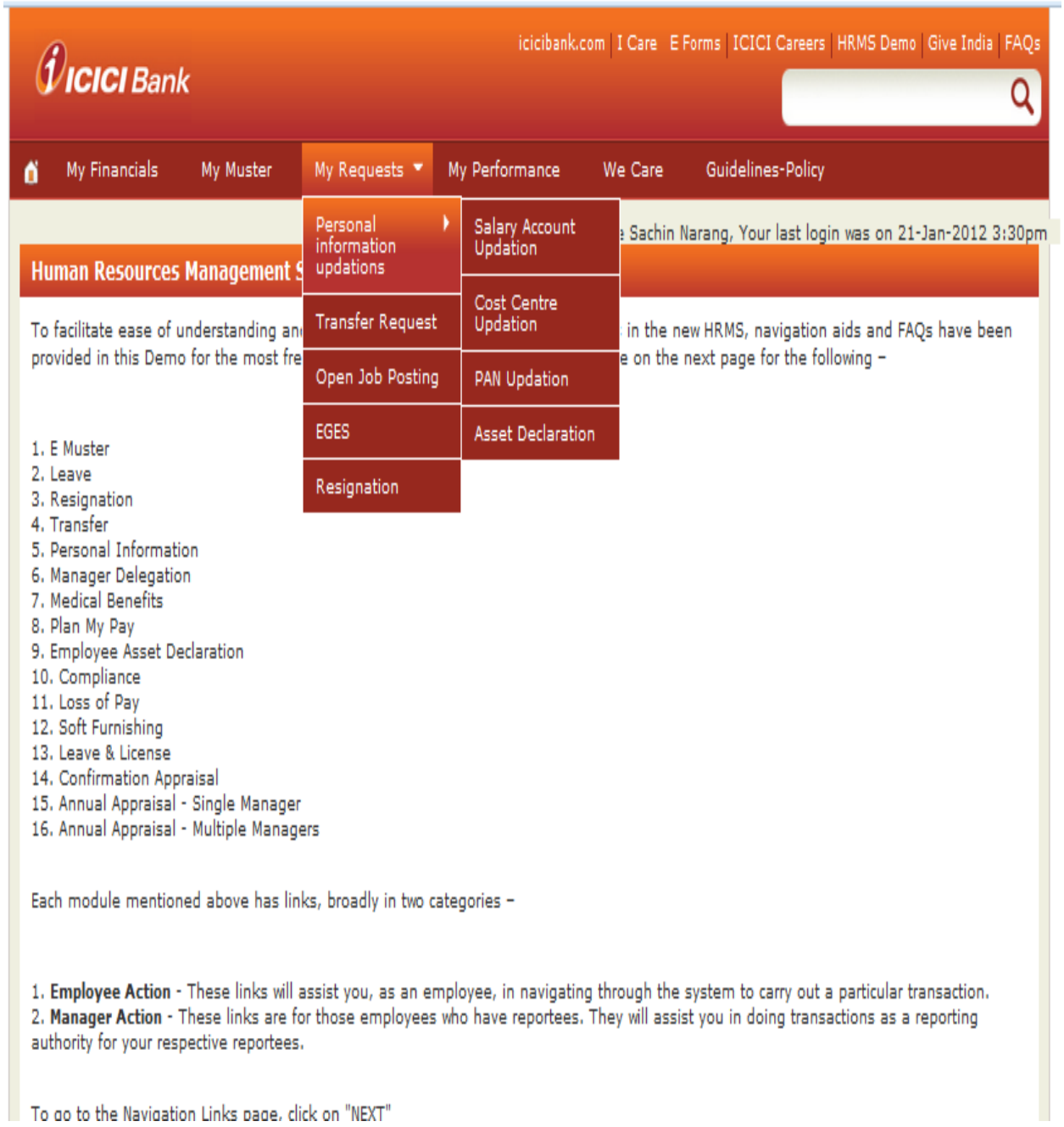
3.3.3 ICICI BANK- ICICI Bank is one of the leading banks in India having private ownership and its headquarters at Mumbai, Maharashtra. ICICI Bank has diversified itself to delivers insurance and other financial services and it provides a plethora of services to both institutional and household sector of economy through various specialized channels in insurance (life and nonlife), portfolio management and seed capital management. It has more than 60,000 employees on its payroll. Since its inception the company has established many milestones which banking, insurance and other financial service provider companies would like to achieve. The bank has global presence and it has its subsidiary in Europe (United Kingdom, Belgium, Germany, and Russia), North America (Canada, United States) and in various parts of Asia. The organization felt that the change starts by self modification and this stated with by becoming pioneer into an internet enabled company.

As per Varma and Gopal (2010) ICICI Bank has workforce 26,000 on its pay roll an estimated 100,000 potential candidates pass through selection process round the year. Moreover think of such a huge workforce, a great section of them in a situation of transition due to posting, change in work location, promotion, resignations, retirements, etc. At the moment, by computerization

and integration of the majority operations, including recruitment and other life events of employee and incorporating them into a inner HR management system, organizations of such a huge size like ICICI Bank are capable to run their human resource department not merely with less number of staff but more efficiently and effectively . As per Prabhu, D, (2006), initially, the business developed a web based technology-linked platform , together with a corporate intranet, "ICICI Universe", proposed to provide a stage where, for example, personnel could check the human resources system for vacation entitlements, book days off or view their personal pension details.

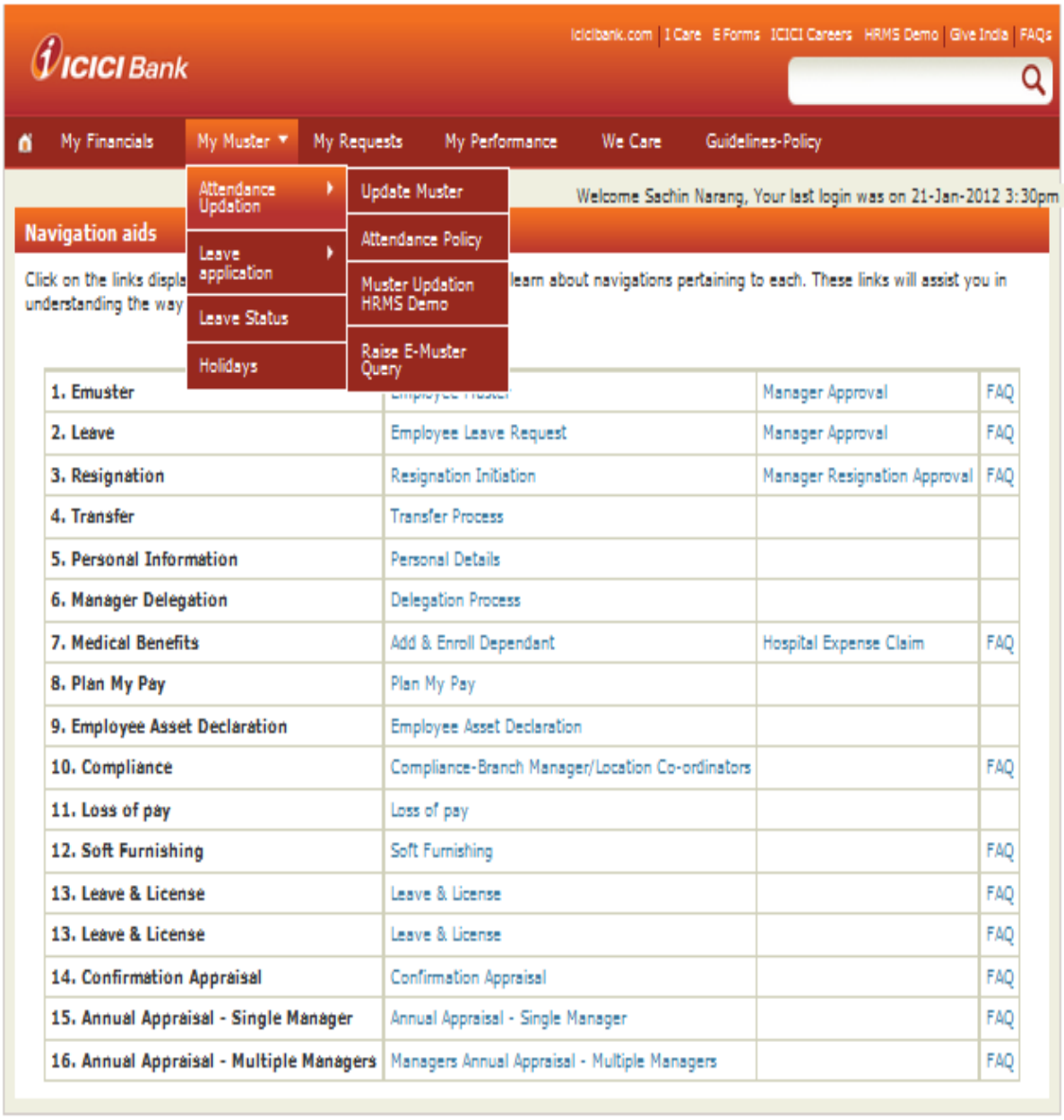
As per Varma and Gopal (2010), at ICICI Bank's e-HR portal workforce cannot only verify their leave days , loan entitlements, provident fund (PF), gratuity, leave travel allowance (LTA) status or the current value of their Employee Stock Option (ESOP) online but deal in those stock options as well. Fascinatingly so, the week's canteen menu is offered on the portal and food can be ordered using internet. As per Kamath, V. (2000), all staff bears a coded identity card which is shown to the electronic device and the amount gets punched in. Food consumed in canteen by personnel are routinely updated and adjusted against monthly pay of the next month. ICICI's intranet has a travel section. A click gives the timetable of all the flights. One can get the position of his leave on the computer - how many days leave he has availed and how many more to go. One can put his leave request on an on-line form and it's communicated to superior, who, in turn, examines it and, once cleared, it's communicated to employees. ICICI's intranet even have tie up with a shopping centre on the web, and now even restaurants and hotels are providing concessions if booking is made through intranet. The portal has become central to service delivery and acts as a new way to run the organization.

Figure-3.13: ICICI BANK- Human Resource Management System (HRMS)



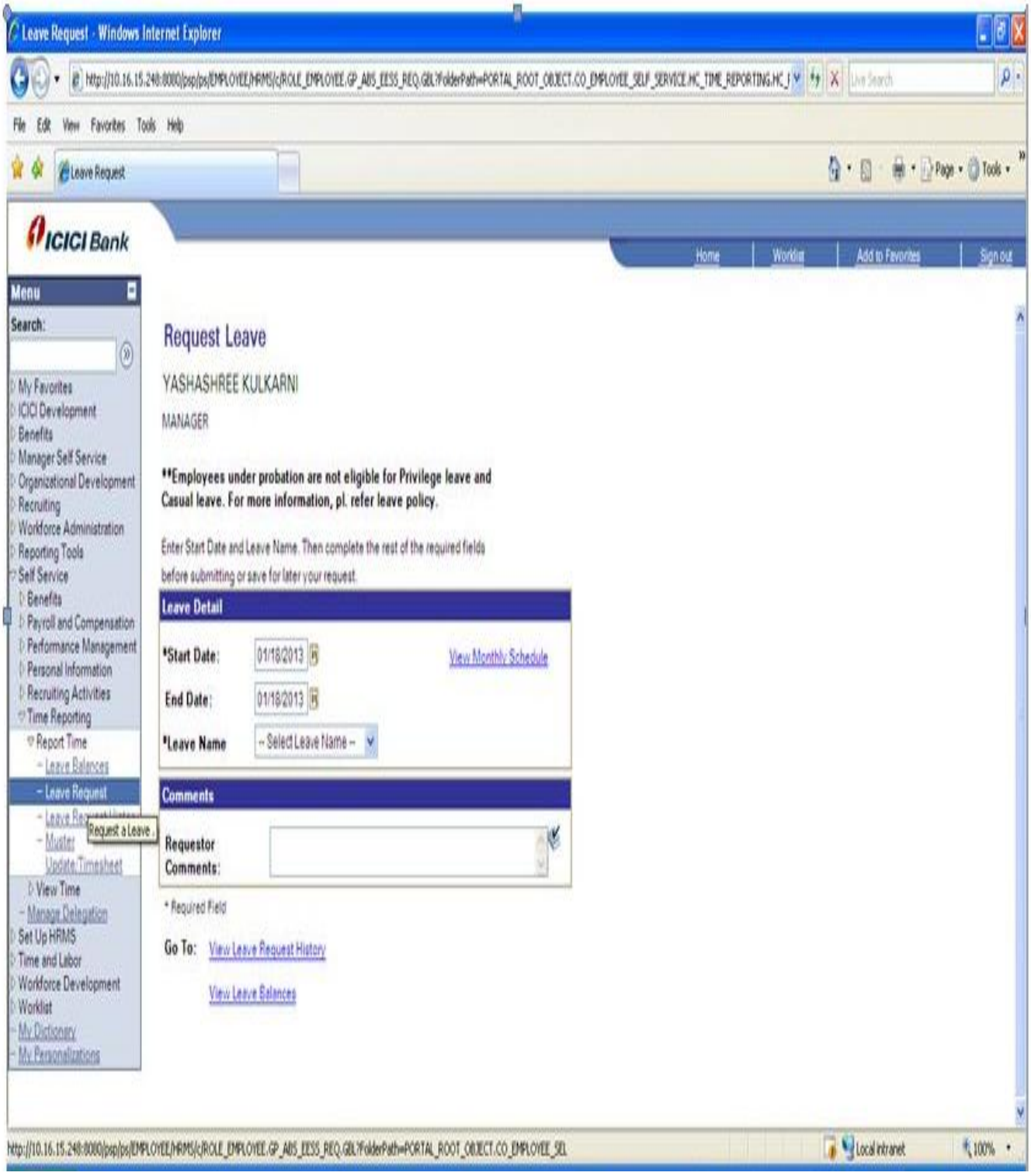
Source-http://118.139.182.133/hr4u/hrms_demo.html

Figure-3.14: ICICI BANK - Human Resource Management System- Navigation Tools



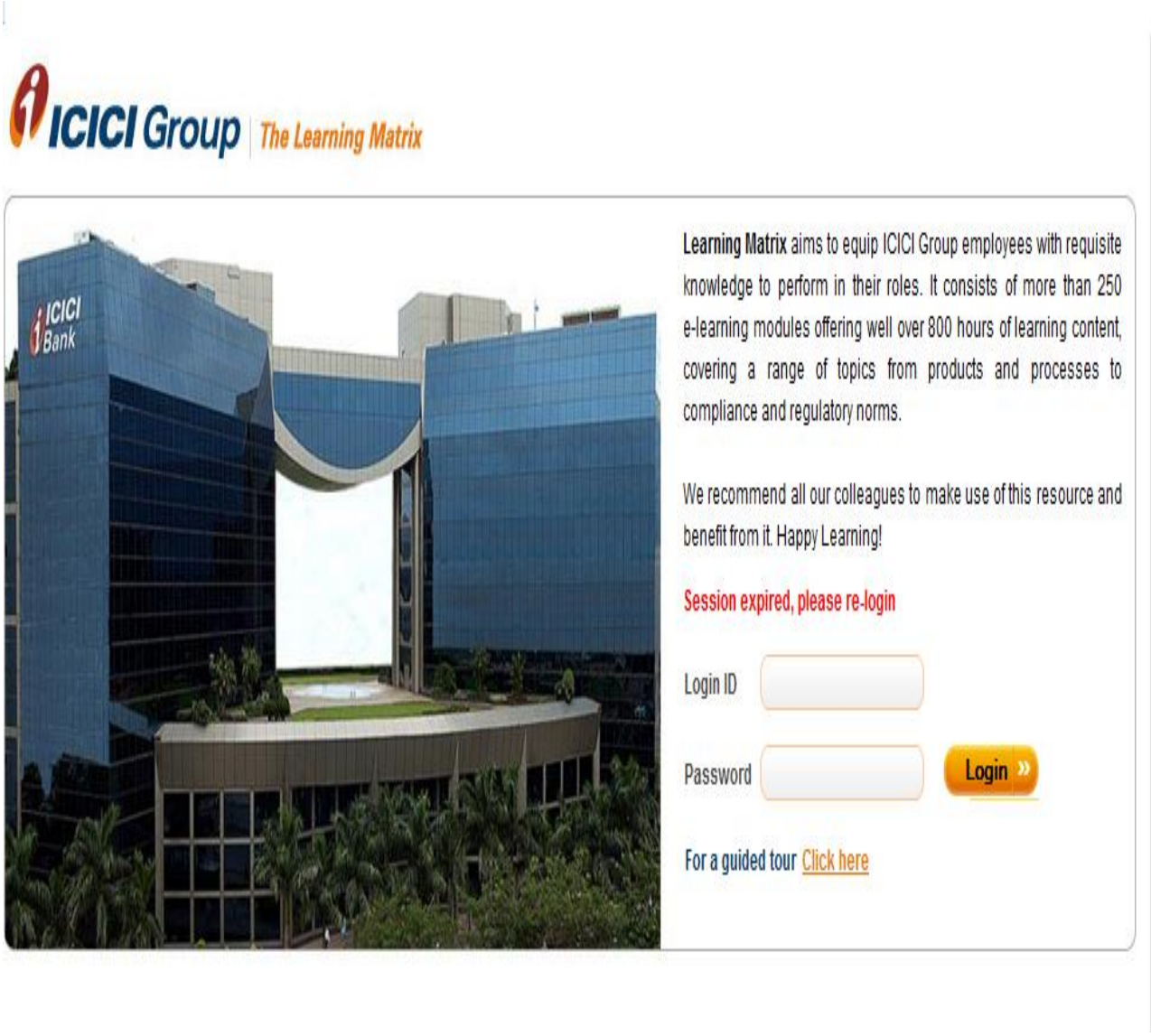
Source-http://118.139.182.133/hr4u/navigation-aids.html

Figure-3.15: ICICI BANK - Human Resource Management System - Leave Request



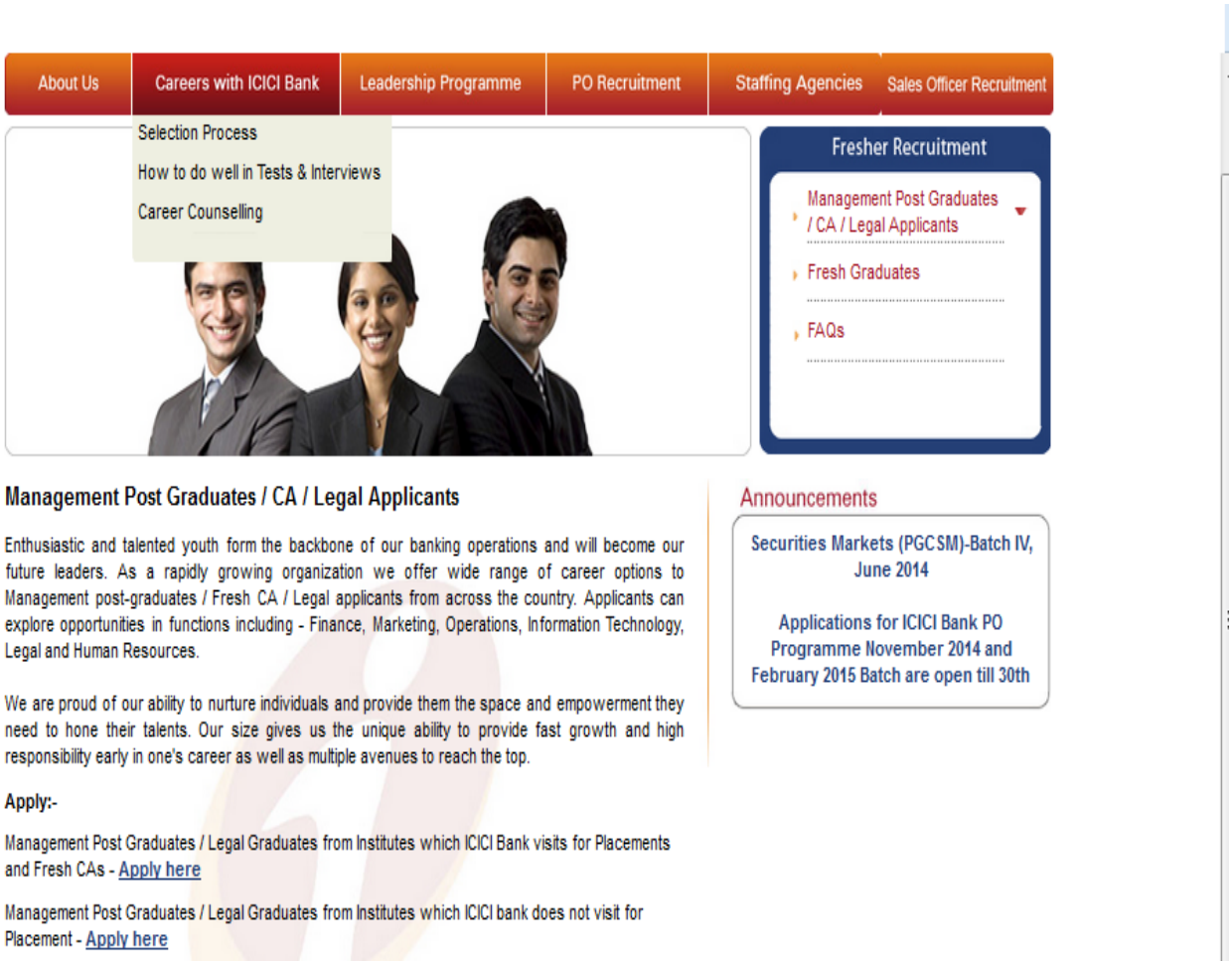
Source -http://118.139.182.133/hr4u/LeaveRequest.html

Figure-3.16: ICICI Group- E-learning portal



Source-
https://learningmatrix.icicibank.com/ICICIBANK/ICICIBank/Login.aspx?enc=TD/mb8yHKcemClPhxqtnhA==#

Figure-3.17: ICICI Bank- E-recruitment



Source-https://www.icicicareers.com/icici_career/management-ca-legal.html

As per Prabhu, D, (2006) what began more as an idea and less as a project was simply the belief that staff should have a space on the intranet where they could participate in collaborative activities, such as contribute or find documents, engage in discussions and post or answer queries. "WiseGuy" was the answer of these thoughts. ICICI's Knowledge management (KM) intranet portal known as "WiseGuy" is simply available from the main employee's portal. Since inception the major goal of the portal was to offer a mode of capturing and spreading the acquaintance and experience of outgoing employee. The goal and aspiration of WiseGuy has seen a sea change, is now more concerned with building a climate and culture and thrust

among employee to obtain and spread knowledge and ideas. "WiseGuy" has some other objects like connect this vast new pool of employees with each other; to share business-related information about clients, deals and ideas; to manage staff through the change process via communication, messages, channels and so on; to overcome the problems caused by staff turnover; to ensure that every person in the company is adequately equipped with the skills and training required for their jobs and for lifelong learning and development.

WiseGuy functions as staff satisfaction driver applies and operates as a delivery instrument to carry key information-handling activities: sharing, teamwork and formation of self-help group. The Knowledge management (KM) programme is intensely rooted in the ICICI's bank culture, but not as an end product of any command from higher level management. Human resources use the Knowledge Management (KM) Portal because employee sees its advantages and recognize the worth it brings to them on a daily basis. Approximate 6,000 employees strike WiseGuy every day. The WiseGuy KM portal also includes a plethora of divisions such as file management, news, digital sections such as business and news magazines, research files, atlas, address list, foreign currency and time calculators, information on a wide range of corporate houses and sister concerns, comprehensive personnel information, and, interactive segments such as debate column, inquiry boards, paper and book reviews, quiz contest, the prizes and acknowledgment scheme and many more.

The capability to be trained across the team and from group members is a very authoritative instrument. Wise Guy aspires to create a learning culture by encouraging alliance and push factor, including a web magazine e-mailed to each personnel before 9.30am and is known as "The Daily Dose". The Daily Dose counts breaking news, headings, view, poll reports, events, client admirations, bulletin, circulars and other daily updates. WiseGuy's document-management system offers a managed view into otherwise overwhelming enterprise content and provides users access to personalized content with team-specific interfaces to improve collaboration. WiseGuy creates e-Circulars to inform and educate staff on regulatory and compliance matters. At ICICI workforce are motivated to contribute and be a part of the portal by prizes and acknowledgements along with details of contributor as the paper or article gets published on the portal.

3.3.4 LIC OF INDIA- Life Insurance Corporation of India (LIC) is an organization owned by central government of Indian. LIC has it's headquarter at Mumbai, Maharashtra and basically deals with life insurance products. LIC through its subsidiaries has investment business; housing finance is the main operation of investment arm. Before 1956 insurance business in India was mainly handled by private players. Life Insurance of India Act was passed by the parliament of India in 1956 and nationalized the private insurance business of the country.LIC of India conducts its functioning and operations not only within India but also has its global foot print and has branches in various parts of the world. Before liberalization LIC had complete monopoly over life insurance business and had established benchmarks in the country which other companies aspire to achieve. Still LIC had highest market share in insurance business. The company has its branches in countries like Bahrain, Mauritius, Fiji, Sri Lanka, United Kingdom, Nepal and Kenya.LIC has a joint venture company at Saudi Arabia and company taking initiative to start its operations at Newzeland, Australia and some Asian and African countries. The company has employee strength of 1, 12,000 (tentative) all over the world. Serving such a huge workforce and providing HR and services and streamlining the operations were a tedious task. For reducing the stationery material cost, and intra-office communication, digitization was the only solution.

Life Insurance Corporation of India is among the first few establishments in India who pioneered and understood the power of information and communication technology (ICT) in providing services to their customers and their employee. LIC had been relevant and updated appropriate technology over the year for its operations. 1964 witnessed the commencement of information technology in name of computers in LIC and in 1980's microprocessors based computers were commenced in local office and regional offices for back office automation. The homogeneity in computer system (hardware and software) initiated in year 1990 and homogeneous software was developed and started functioning. Presently Life Insurance Corporation of India operates with 2050 fully computerized branch offices, 109 divisional offices, 8 zonal offices, 992 satellite offices and the corporate office. LIC's Wide Area Network (WAN) covers 109 divisional offices and links all the branches via a Metro Area Network (MAN). All branch offices have been connected to Local Area Network (LAN). Life Insurance Corporation of India (LIC) has now made its services more widespread and available by extending its Wide Area Network to every

nook and corner of the country. LIC's WAN, MAN and LAN network is a wonderful exemplar technological knowhow being applied to rationalize functioning and take workforce satisfaction to advanced levels. WAN of LIC can now support multimedia audio and video and has established a web server. The renewed and extensive WAN restructures human resource processes, building it simpler for LIC employees direct entrée and function devoid of any unwanted obstruction. All this converts into improved effectiveness and efficiency levels in operations. LIC was also capable to reduce on intra-office long distance interactions and messages, via voice on internet protocol and video conferencing technology on its wider area network.

To provide all these facilities to employee Life Insurance Corporation (LIC) has a all-inclusive online portal known as "Jeevan Sanchar" a internet-based integrated software to provide the requirements of workforce. " Jeevan Sanchar" is web-based system, which presents a single-point individualized interface and a wide range of substance and facilities to workforce. This is an entry point to access LIC's diverse services. Beside compiling and delivering information that is pertinent to particular group of users, accomplishment of" Jeevan Sanchar" has empowered widespread application of safe internet utilizations for the information propagation and service deliverance to human resources. Workforce can log into the " Jeevan Sanchar" serial number (SR. NO) made available to them by the LIC, Portal will channelize to personnel portal and staff can avail HR concerned facilities.

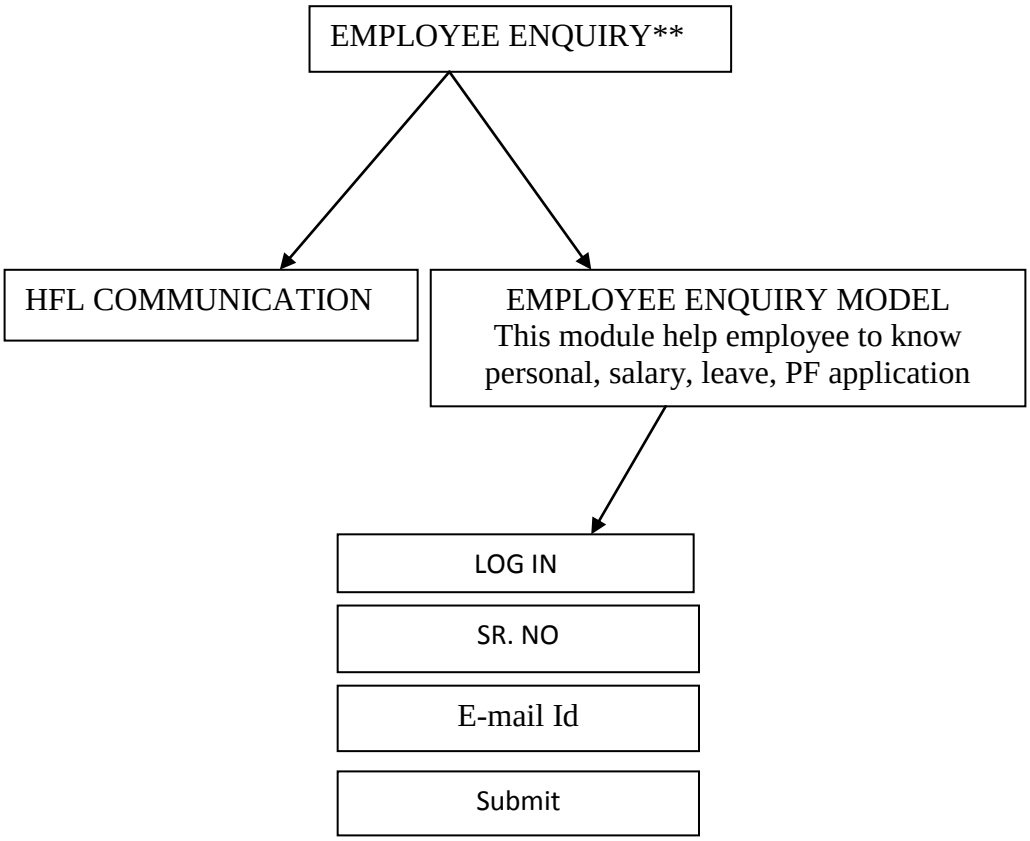
Life Insurance Corporation's, Electronic Front End Application Package (eFEAP) deals with the transformation of Front End Application Package (FEAP).The eFEAP is the main insurance solution of LIC and provides the software requisites of all the workstations and locations of the establishment. Latest development i.e. Electronic Front End Application Package (eFEAP) offers superior client-interfaces, integrated records supervision and remote support.

Figure-3.18: Highlights of "JEEVAN SANCHAR" Front Page

QUICKLINES	ENQUIRIES	INFORMATION
Idea box	Policy enquiry	LIC profile 2013
Marquee model	Policy EDMS image	Media room
ICMS	Branch enquiry	e-forms
Infotech	e-mail enquiry	Premium point grid
Check e-mail	e-mail search	Corporate identity
EDMC	Premium point list	Programme
Hardware Helper	**Employee enquiry****	LIC mobile
Knowledge Management	Hindi tool	

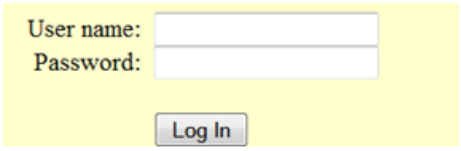
Source- compiled by researcher

Figure-3.19: Highlights of Employee Enquiry**



Source- compiled by researcher

Figure-3.20: Log In eFEAP



Source- compiled by researcher

As per Yogakshema (2007), Knowledge Management Portal (KMP) is a project, where the knowledge base of information technology workforce is compiled in a record for repossession and use by personnel of LIC. All the workforce of LIC can access the Knowledge Portal. The subsequent are the few steps to access knowledge portal

1. Open intranet, Jeevan Sanchar.
2. Move to the link available as Knowledge Management.
3. Log in by putting the serial number, e-mail-id and password.

After proper verification by mail server, the clients can have vision of the record. This is to limit the utilization only to personnel of LIC. There is a practice in LIC to put audit follow up and administrative verification in place to certain that someone else is not taking unwarranted benefit of the existing database. Information can be availed on as and when requirement basis. Training and learning matter is also offered on the Knowledge Management Portal. The inputs for the portal come from the personnel and examined and uploaded for the utilization of personnel. A mail-id, with address km@licindia.com has been formed for this reason. Knowledge Management Portal (KMP) has altogether minimized the time needed to develop new or existing personnel significantly and has also minimized the endeavor needed to make them multi-skilled.

3.3.5 Moser Baer India Limited- Moser Baer is one of the most important global tech-manufacturing company of India having its headquarters at New Delhi. Moser Baer is one of the world's biggest producers of optical storage medium like compact disc (CD) and Digital Video Disc (DVD) was established in 1983. Over a period of time, Moser Baer has started manufacturing pen drives and flash memory cards. Beside storage devices company has also forayed in the business of movie CD and has copy right of several films. To fulfill the current requirement of nonconventional source of energy company has also started manufacturing photovoltaic cells. The company has its branches in various parts of the world and has offices in over 100 locations of the world and served through 15 marketing offices and representatives in United States of America, different states of European Union, Japan, Russia, Malaysia, Chile, Ukraine, Egypt, Argentina, and has technical and business tie-ups with many top level optical media storage business producers. Moser Baer India Limited's products are being vended at several countries (more than 82 countries) of the world. The company produces its products at its three manufacturing facilities situated at Greater Noida, in National Capital Region of Delhi. The company has more than 8,000 workforces on its payroll. Moser Baer has one of the sound HR practices in the country and has developed different online portals for easy communiqué and information sharing with workforce.

Moser Baer is using as well as selling Ramco Human capital management Model (HCM) SAP integrated suite for their HR services. Various units in this suite application inculcates human capital management Model (HCM) - solution landscape assimilating services, human resource planning, recruitment and selection, on-boarding talent management, employees management, staff support system, salary & attendance management. It has facility of user management & safety, flexible workflows, individualization, survey support, on-requirement reports and data migration facilities. Through integrated software suite HR functions like recruitment, workforce administration, international mobility, time and attendance reporting, workforce planning, resource planning, payroll, expenses, travel management, occupational health & safety, talent management, contact & case management is operated.

Human resource intranet named as "My Moserbaer", offers platform linked to individual data administration, HR manual, training and learning, payroll, daily shift administration, leave, in-house job posting, cafeteria, exit and options to the most of the life events of staff. Workforce

can vend used household items by mentioning the features of the item, quotation and uploading the picture. Automation of core human resource processes, such as employee administration, legal reporting, payroll increases efficiency and supports compliance with changing global & local rules is hall mark of My Moserbaer HR intranet. Majority of the services are made available on employee (ESS)/ (MSS) manager self service mode.

My Moserbaer offers self-service admittance to the central HR systems so managers and employees can input individual data and carry out transactions on internet. It makes employee independent, minimizes paper utilization, streamlining procedure swift diffusion of important information on a wide range of topics, facilitate human resource to accomplish a variety of task, links member of staff and regulates HR operations. With "My Moserbaer" HR help desk, if human resources have any question, inquiry and concern are appropriately captured analyzed and quickly determined and owners comment is offered on issues not covered under the pertinent instructions. Any matter forwarded via intranet and process owners answer the raised question and forward to the concerned member of staff with the carbon copy addressed to help desk dedicated resources within the fixed time limit. The help desk resources present MIS and percentage compliance to defined service level agreement in the plant monthly review meeting. Member of staff can raise their complaint on line e.g., absenteeism, leaves, overtime (OT), and miss punch. HR MIS set up report on regular basis like new recruit, resignation, overtime, attendance, leave, compensation & referral cases, late reporting & early leavers & take corrective action as per organization's rules.

As per Corporate Responsibility Report (2012) The HR policies are noticeably and visibly shared with our acquaintances. Each concerned has access to all policies in their personal Intranet Portal Account wherein all vital and pertinent information is uploaded. The staff can find all aspects regarding his/her leave, salary slips, performance management system (PMS), cafeteria details, daily attendance on My Moser Baer. Training Management Portal contains all information on training need requirement gaps identified and development programs planned for each associate. A process has been intended to put into practice the learning and training programs with a yearly calendar preparation and putting it to monthly training schedule. "My Moserbaer", portal enables smooth & efficient capturing of information, reducing paper work

and increasing the efficiency of the process and helps identify the gaps. Self learning is facilitated by the intranet, library and online portal. HR Help Desk is provided to the employees for grievance handling.

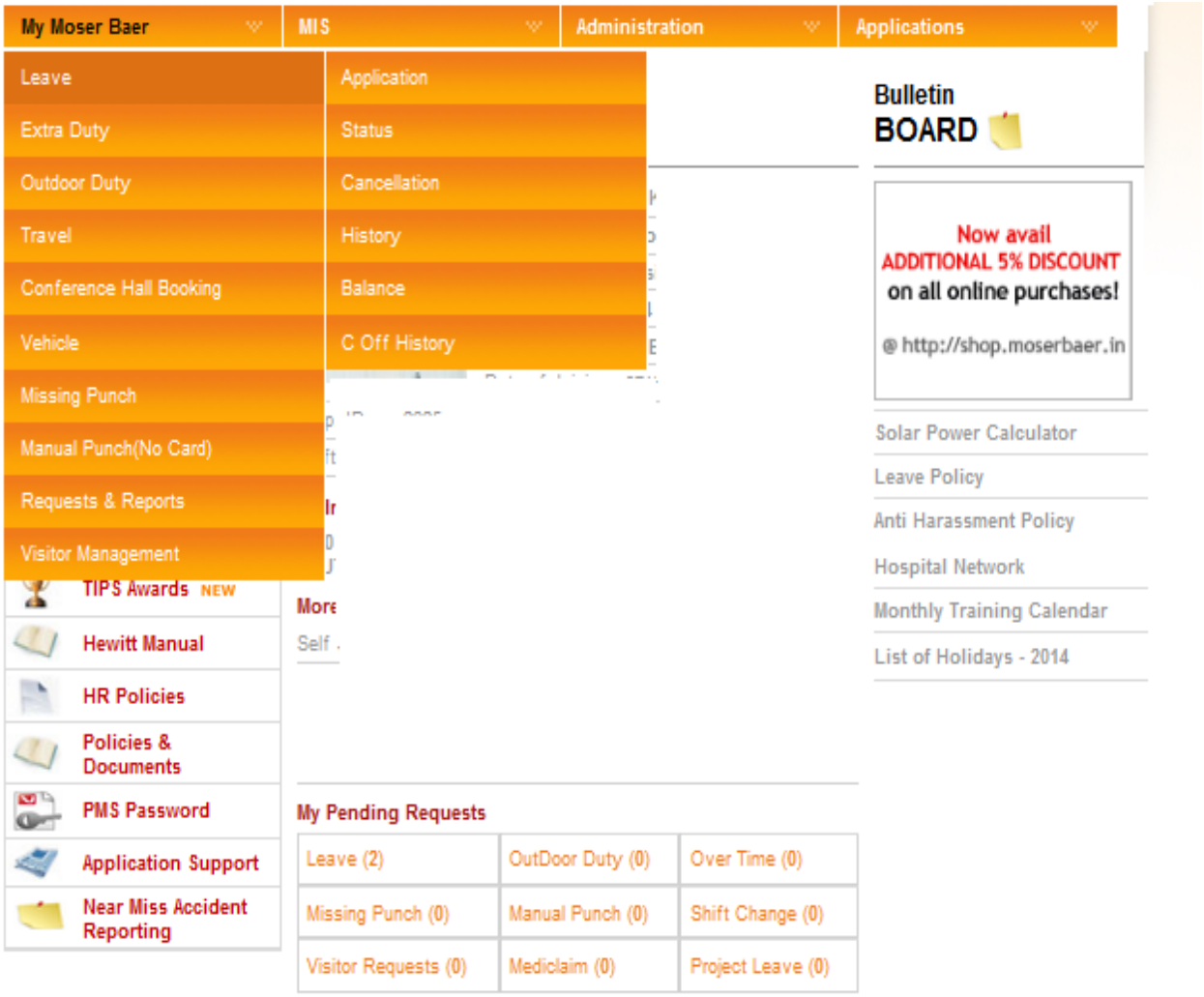
FIGURE-3.21: -MY MOSERBAER

Source- http://bizapp1.moserbaer.in/MyMoserbaer/

FIGURE-3.22 (a): First Page after Sign In- MY MOSERBAER

Source- http://bizapp1.moserbaer.in/MyMoserbaer/

FIGURE-3.22(b): First Page after Sign In- MY MOSERBAER



Source- http://bizapp1.moserbaer.in/MyMoserbaer/

3.3.6 National Thermal Power Corporation Ltd (NTPC) - NTPC Limited is a public sector organization under the Ministry of Power, Government of India, involved in the business of production of electricity and related activities. It was established in1975 to fulfill the shortage in electricity production capacity from conventional energy source coal. Today, NTPC's main business is engineering, erection and operations of electricity generating plants. The sum total of electricity production capacity of the organization is 35000 MW (Tentative) with 15 coal based and 7 gas based electricity producing stations, situated from all over the country**.** Total employee strength in NTPC is 25,500 (tentative) and boasts a team of 536 HR professionals.

Human resource at NTPC is a three level structure. The group/corporate level human resource is involved in policy formulation, the regional HR set up facilitates and monitors the implementation process while the workstations or actual working site HR have the main duty of execution of policies and systems. The three layers in the HR department of NTPC function in integrated manner. There are lots of IT facilities to make HR delivery mechanism automated to a large extent.

NTPC has executed an Enterprise Resource Planning (ERP) system covering large number of functions across the company encompassing sister concerns. . This ERP project called `LAKSHYA' has imparted a cutting edge to the company in terms of efficiency, flexibility of functioning, transparency, and quicker response to internal and external stakeholders. In addition to the core business processes and employee self service (ESS) functionality, the ERP solution also includes e-procurement, knowledge management, business intelligence, document management, workflow etc. To take care of staff self service requirements of far lunged located personnel, linkages via internet has been provided through safe access. The ERP structure is completely handled through in-house proficiency from functional teams and technical teams and concurrently in-house solutions have been developed to handle non-ERP issues.

SAP- ERP Human Capital Management Model (HCM) has altered conventional human resource department into all inclusive system. It enhances the worth of workforce and assimilates human resources, operations and policy to carry business aspirations. Automation of main employee processes, such as staff administration, legal issues, and payroll enhances competence and facilitates conformity with changing international & local guidelines. The company is capable of creating project teams based on proficiency & accessibility, supervise their growth on particular projects, track the time they spend, and analyze the results. Equally important, integrated talent administration functions in ERP provide human resource managers insight into company's talent to more effectively forecast, attract , acquire, train, align and retain the talent required to maximize the effectiveness of the business. Recognizing high achievers and probable successor assists business reduce disturbance when executives and top level managers go on leave, resign or superannuate.

At NTPC employee self service (ESS) takes care of majority of requirements of the workforce. The staff can select a meal of his choice through ESS. By ESS one can put his demand for transfer, verify current position of reimbursement and loans one has forwarded via ESS. Request for transfer or relocation and requisition of human resource necessity are also posted and supervised on line. Even performance management system (PMS) is ERP based with a provisions of timely transfer of records. The areas of learning and training and industrial relation are being supervised and managed by human interventions. It feeds necessity of human resource department in reward, employee benefit administration, compensation, career planning and knowledge management system.

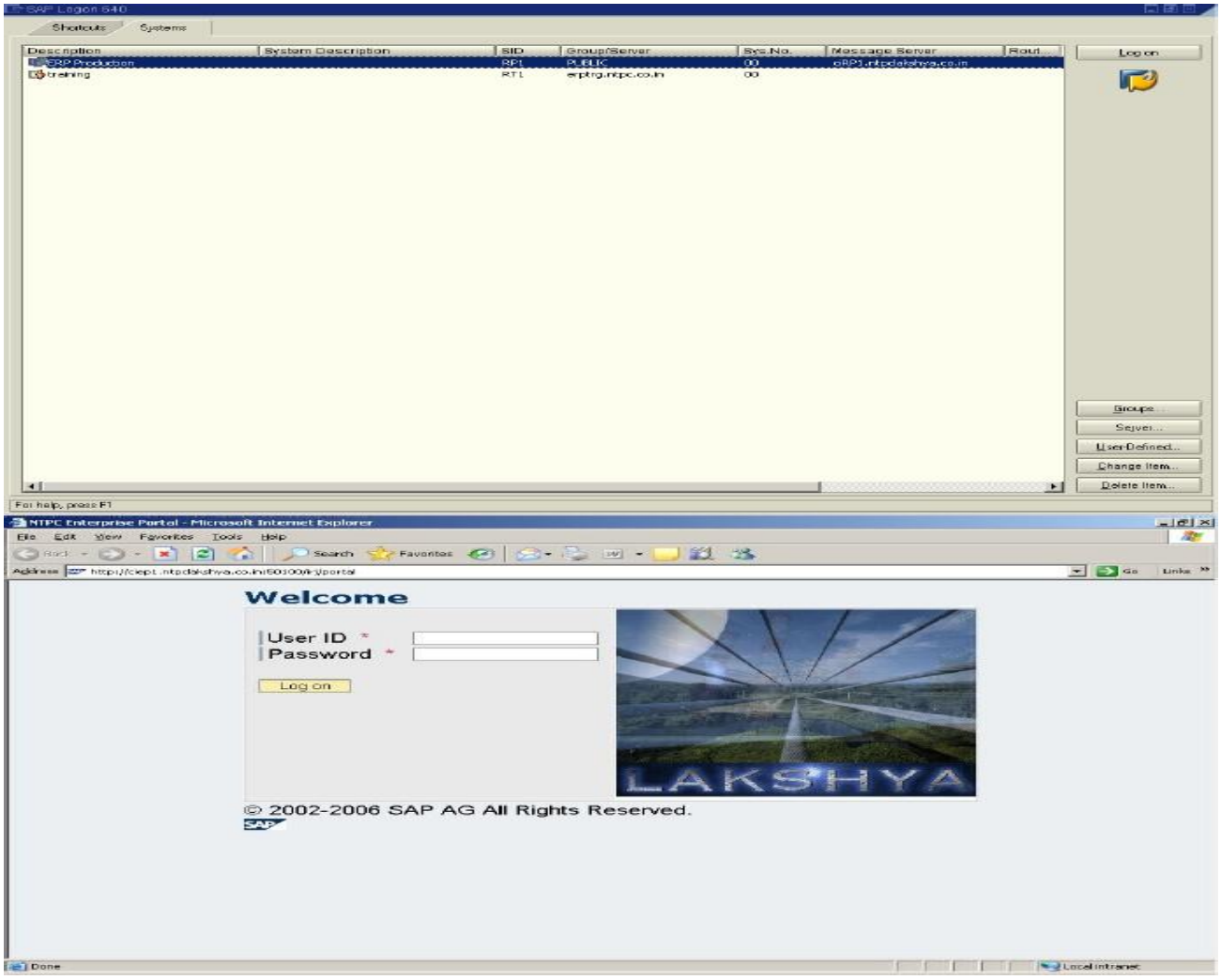
NTPC has implemented SAP to bring all functions of the organization under one roof with uniformity in all processes throughout the organization. To fulfill the growth strategy of the organization, NTPC paid emphasis on standardization and harmonization of practices and paid attention on providing services in homogenous manner. The company was integrated as single unit, geographical boundary became history when company inaugurated 'Project Disha – Organizational Transformation' with the goal of uniform technology and same process and system by flawless incorporation of ERP software amid all its processes with single outlook of the business as a unit. To achieve this ERP software was implemented at every workstation and office. The mission Project Disha mobilized diversified workforce as a single unit resulting in to efficient utilization of resources especially human resources. At the inception of the Project Disha preparing workforce for change, creating awareness and providing training to the employee was a major challenge faced by the company however these hurdles were removed successfully and in the end company is harvesting the benefit of implementation of Project Disha.

As per NTPC Director Report (37th Annual Report, 2013), to ensure that implementation of ERP works smoothly at all the functions and locations every attempt has been made to make ERP quick and rapid and this has been achieved by making the bandwidth twofold. For reliability and consistency a parallel network has been established via different service provider. Videoconferencing facility is available at every workstation and office for conference, meetings

and project evaluation and monitoring. At Noida, Power Management Institute (PMI) has arrangements of virtual classrooms which can be availed at other sites of the organization.

Beside all these right to information (RTI), parliament question management, legal system, transit camp booking requirements etc has been on digital platform. For retired personnel web site with URL www.ntpcexemployees.co has been developed and it takes care of their requirements. In a true sense ERP has enhanced the worth of workforce and assimilated personnel, processes, mechanism, delivery tools & business strategies to provide competitive edge.

Figure- 3.23: Employee Self Service (ESS) HR Module-1 (Screen Shots)



Source-

file:///C:/Users/User/Desktop/14/SAP%20ERP%20HCM%20in%20NTPC%20Limited.htm

Figure- 3.24: Employee Self Service (ESS) HR Module-2 (Screen Shots)

Source-

file:///C:/Users/User/Desktop/14/SAP%20ERP%20HCM%20in%20NTPC%20Limited.htm

NTPC in their corporate portal has provided a link “Career with US ”, which is for external job seekers and provides details of vacancy and acts like recruitment portal where on line applications can be filled and different forms can be downloaded

Figure- 3.25: E-Recruitment Portal of NTPC.

Source- http://www.ntpc.co.in/index.php?option=com_content&view=article&id=102&Itemid=37&lang=en

The company has an e-mail facility having a server with database of users that can be identified by it. This mail service is for employees having company name and facilitates communication internally and to outsider clients, vendors and other service providers.

Figure- 3.26: Web Mail Service of NTPC

Source-https://mail.ntpc.co.in/

3.3.7 State Bank of India (SBI) - SBI is public sector bank having it's headquarter at Mumbai, Maharashtra.SBI has diversified itself to provide insurance and other financial services. It is the largest bank of India in terms of asset and market capitalization. It has more than 16000 branches has 190 offices abroad. It has more than 2, 28, 296 employee on its payroll. Since its inception the company has established many milestones which other banking, insurance and other financial service provider companies would like to achieve.

SBI Human Resource Management System (HRMS) Portal is a SAP supported Management System, an attempt to assist workforce in carrying out their human resource associated actions with no difficulty. It is operational online for assistance of State Bank of India personnel and administrator. SAP Net weaver assists in the areas of Human Capital Management (HCM) and Enterprise Resource Planning (ERP) such as electronic-learning, virtual classrooms, competency assessment, succession planning, performance management and career growth. The HRMS of company is utilized by the SBI staff for human resource related inquiry and doubts like pay slip,

pension slip, PF, income tax calculation. The main goal of the portal is to offer personnel benefit scheme is to have excellent service in particular segment. All the updates of significance whether it is major or minor are notified to the personnel via this portal. The portal plays a very important role to recruit required employee as and when required.

SBI HRMS most important aim is take the business ability of the organization to highest horizon and to be supportive to every employee of the SBI for their work performance**.** SBI Human Resource Management System (HRMS) has a service platform to provide Human Resource Management System (HRMS) related inquiry; 'Service Desk' has been inaugurated in all circles and branches to exploit it. (Link available in 'HRMS portal-> Link for Branches-> Service Desk' and 'State Bank Times->Useful Links 2-> State Bank Group Service Desk', URL is: http://10.4.236.141/caisd/pdmweb.exe)

- All services linked to provident fund are accessible through the SBI Human Resource Management System (HRMS**)** Portal. The linkages are accessible underneath:-

Employee Self Service->PPFG

Manager Self Service->PPFG

Staff can make/alteration nomination in gratuity by Human Resource Management System (HRMS) Portal. The link is Employee Self Service -> PPFG -> Gratuity.

To entrée to Human Resource Management System (HRMS) portal via mobile, i-pad, i-phone etc website is URL https://hrms.onlinesbi.com/mobile for salary slip & tour approval.

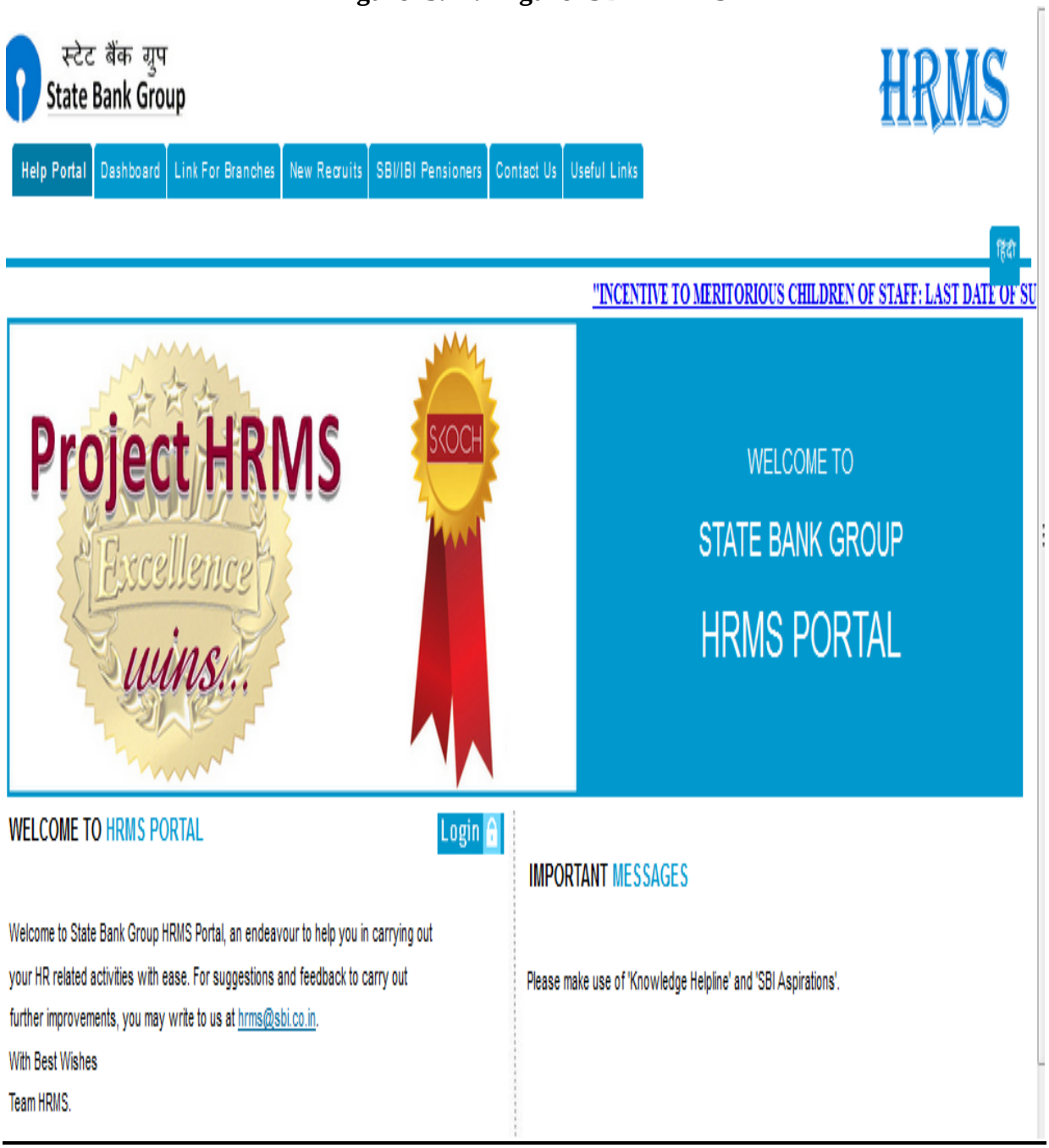
Few alterations like professional/ educational qualification, training and development, personnel address can be made by following underneath steps. (For instance the footsteps to be followed to renew or change educational qualification information online through HRMS website)

-First, visit HRMS website (https://hrms.onlinesbi.com/irj/portal.) and login to account

-Second step is to go through “Employee Self Service” then here select “View/Search”

-Now in resume department, do all the required alterations. (It has to be rectified only if the staffs need to correct the data through HRMS Portal.)

Figure- 3.27: Figure- SBI- HRMS



Source-https://hrms.onlinesbi.com/irj/portal

Figure- 3.28: SBI- Human Resource Management System (HRMS) Log in

Source-https://hrms.onlinesbi.com/irj/portal

SBI is now provides platform to verify the complete description of the retirement fund and pension to retired person is credited each month directly into bank account of the pension

holder. It is also feasible to observe and print the delivered pension slip. The income tax deduction is automated and amount to be paid by the pensioner depends on the PAN number, the Dearness Allowance (DA) provisions are provided by the bank to the pensioners. Currently with all alternatives on homepage of SBI Human Resource Management System (HRMS) Portal, retiree has to steer to "Pensioner Self Service" to renew individual information. To have a vision pension-slip and upload investment statement form, the web site address is https://www.sbi.co.in/sbipension/user.htm

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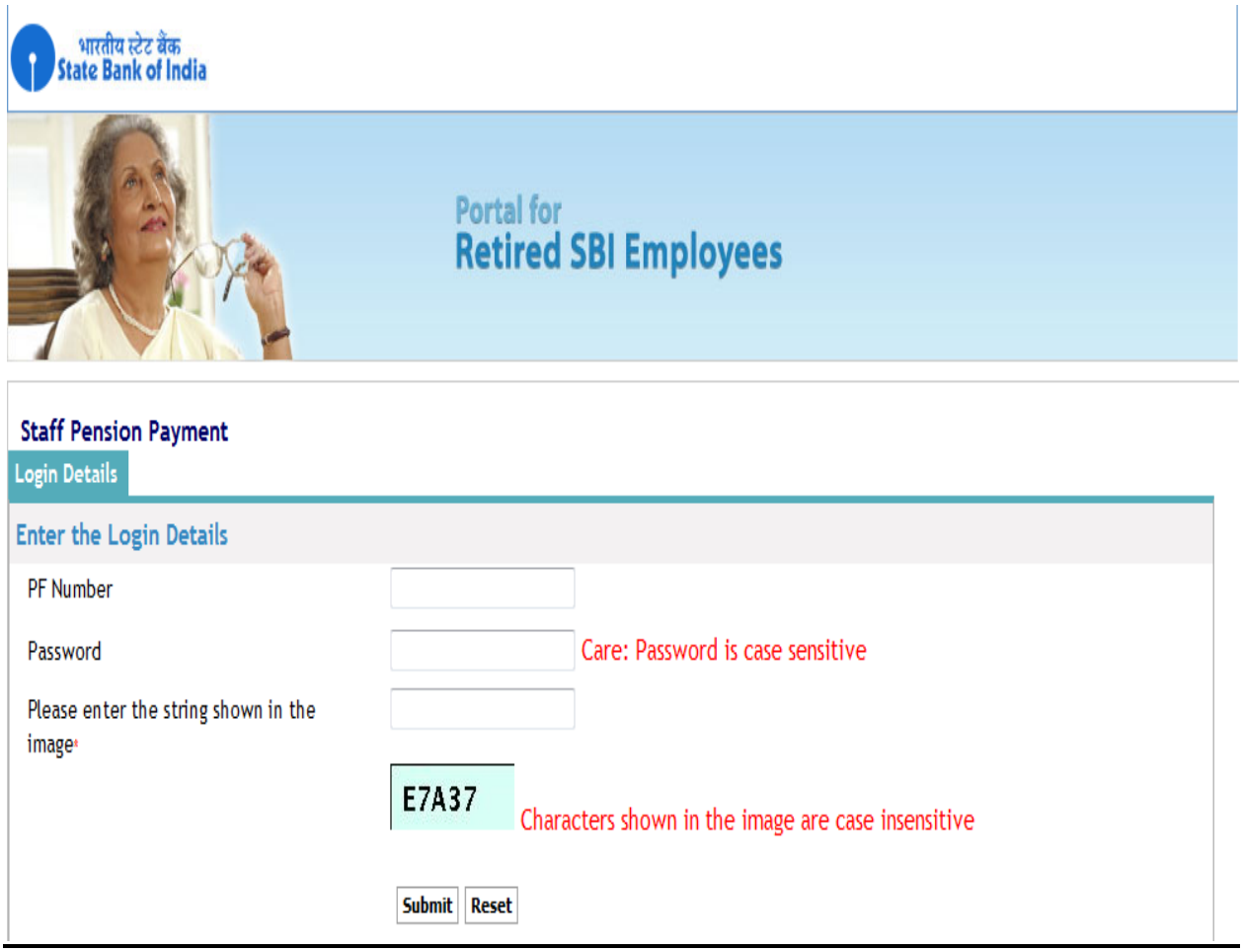
Figure- 3.29: PENSION Log in (SBI)



Source-https://www.sbi.co.in/sbipension/user.htm

3.3.8 Tata Motors Limited- Tata Motors is India's multinational company with operations and office spread over various locations of India and abroad, is the largest automobile company of India. It is considered as market leader in commercial vehicles segment, and amongst the major players in non commercial vehicle segment. Tata Motors ranks fourth in truck and bus manufacturing worldwide. The organization has more than 63,000 (30,000 permanent) employees and is a dynamic company with state of art manufacturing establishment in India and abroad. Tata Motors through joint-ventures, subsidiaries and associate companies has worldwide presence and its production and operations spread across Asia, Africa, South America and Europe. The establishment has ventured into new marketplaces and has acquired new brands like Jaguar and Land rover to reinforce global footprint. The company has a healthy operational Enterprise System Model Manual (ESMM) comprises of organizational level systems and sub systems. The ESMM is occasionally reviewed and restructured to depict the changes in company's operational necessities and alteration in different processes.

As per SAP AG (20O7), till late 90's there were several in-house developed software applications that administered all of the business prerequisites. As software was fragmented and developed in various phases over long periods of time and also they were available on various platforms and hence very complex to integrate with all other business functional applications. One of the major shortcoming of the inheritance applications was that they were for particular purpose, task and place specific and were developed on local and individual perception of necessitates. Universal and rationalized procedures and practices along all managerial units were not imposed. As a result, administration of functions like HR stretched across the nation and their corporate office was tiresome and lingering. Diverse HR functions were disjointed and were, causing hindrance in individual operations. This led to needless boost in overhead costs and replica efforts at on every occasion.

The organization quickly learnt that the need of the time was an integrated synchronized database that gave the latest information to all their stakeholders - both in-house and external. They had to move from their inherited decentralized platforms into a merged enterprise platform and rationalize the business practices across the different units. The organization could provide

their internal customers information much better and quicker, even though dropping operational expenditures and reducing HR cycle times.

The company determined to go in for the SAP -ERP Human Capital Management Model (HCM), for HR functions which proved to be panacea of all the evils of fragmented application software. The SAP Solution allowed them to develop business link by integrating the database and functions across the nation into one solo entity. The business no longer needed any locality-specific technical know-how and thus much effortless to operate**.** The mission was put forward by Tata Technologies, which is a sister organization of Tata Motors. So Tata Technologies became their implementation partner. In the mean while SAP India provided consultancy to Tata Motors. With the SAP ERP Solution in place, Tata Motors understood significant advantages in productivity and cost control. As a result sum total of servers as well as the number of various applications run on them has greatly come down.

The SAP ERP HCM model gives advantage of correct and reliable data. The system has been initiated through a centralized system and deployed to diverse HR function across the business. This assisted integrate systems seamlessly across the value chain to send better service quality. SAP Human Capital Management system realizes expected business worth and advantages and built a motivated and high performing group and managed performance and acknowledged growth on development areas of individuals by means of appropriate mechanisms. It Identify succession plans and back-ups for key roles recognized and socialize achievements of the team, identify and clearly communicate performance issues in the team followed by inputs. This is helpful in governance and compliance. ESS in Tata Motors act as a change initiator by creating value for internal stakeholders as they are not expected to remain dependent on the middle man i.e. HR executives. It authorizes employee to execute various recurring task like payroll, attendance, leave, event management, training & development on their own.

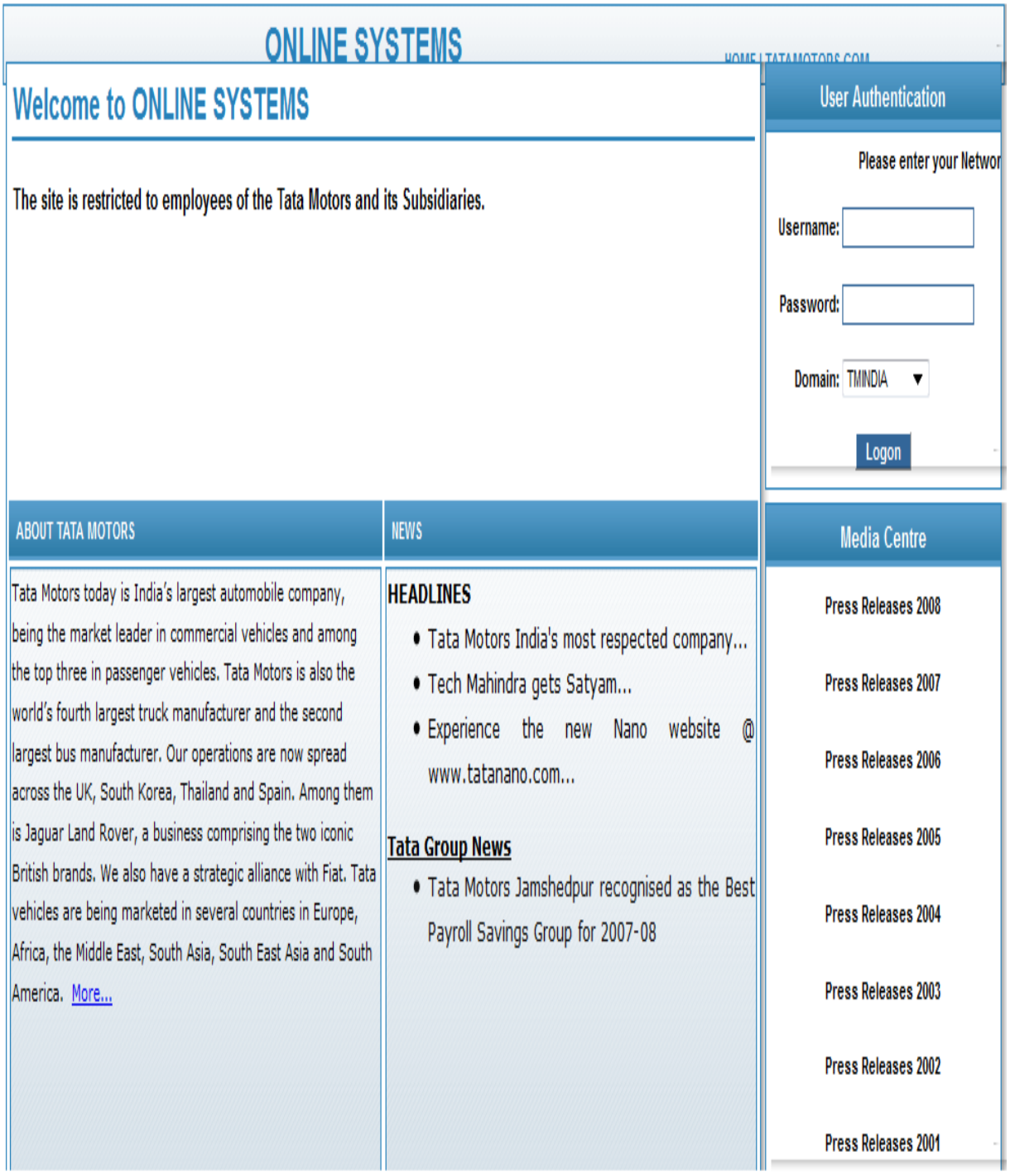
HR values of Tata Motors are information technology facilitated people process to carry out human resources strategy with tools in learning management system, work force induction performance management and other life events of employee . Information technology facilitates and supports business growth and competitiveness by delivering strategic programs and services

as recognized by the Tata Motors. The organization strengthens the usage of IT in HR application and processes for effective and efficient employees management. Synel Attendance Recording System (Biometric) has been incorporated with SAP. Tata Motors has incorporated its WAN with ancillary companies for seamless operations.

As per Sixty Seventh Annual Report (2011-2012), ability development, spearheaded by the Tata Motors Academy, has enabled knowledge-sharing through schemes, such as Learning Management Systems (LMS) and iTeach. LMS permit workforce to take ownership of knowledge accumulation, while the iTeach offers a platform for senior management to share their proficiency and knowledge. These guarantees implicit knowledge transmission, breaks silos, develops leadership, minimize cost of third-party training and receive incentive points for people sharing their knowledge with co-workers. The idea of Learning Advisory Councils (LACs) has been recognized as a practice of global standard. Through LACs the company or the department recognize their learning preferences, which they own, appraise and strengthen. Today employees are self motivated and learning has become a pull factor rather than push factor, unlike in the past, when HR would drive the process. The HR function is delivering learning programmes in electronic platform to attract generation Y, tech-savvy workforce of tomorrow. Now almost 90% of learning programmes are web based. As per Corporate Sustainability Report (2012-13),Tata Motors Academy has started e-learning assistance for executive and dealers to drive a tradition of self-learning and make the learning process more comprehensive and competent. The e-learning curriculums have been very well acknowledged with over 80% of white collared workforce have accessed the Tata Motors Academy portal and 5,800 workforces have finished at least one of the e-learning programmes.

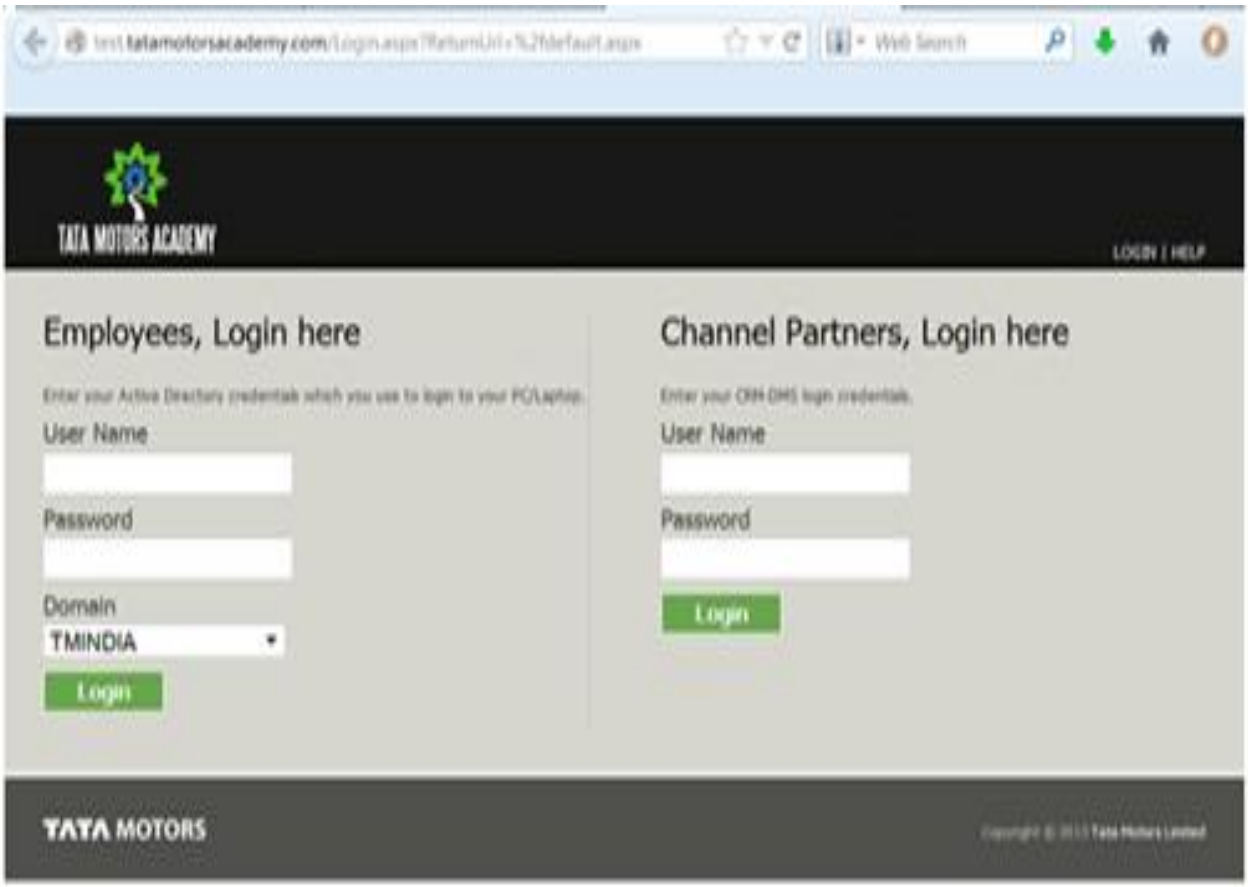
The new individualized compensation policy puts a lot of accountability in the hands of line managers. A considerable part of performance measurement, talent management and judgment criteria today are about applying hardwired HR processes to support what is in reality a soft enriching transition. Tata motors have built up high-level brand equity around a variety of HR interventions by applying e-HRM.

Figure- 3.30: Employees on Line System (MY TATA MOTORS)



Source- http://onlinesystems.tatamotors.com/%2852qsoj553o1gfx55k2tfphmk%29/login.aspx

Figure- 3.31: ACADEMY Log In (TATA MOTORS)



SOURCE-http://test.tatamotorsacademy.com/Login.aspx?ReturnUrl=%2fdefault.aspx

Trends in select Indian organizations are encouraging show most of the select organizations have intranet and providing HR services in digital platform. Self service (Employee/ Manager self service) is an integrated part of intranet portal. Some organizations like HCL and ICICI bank has Web 2.0 applications and to some extent providing HR related services in social network platform. Most of these organizations have implemented ERP software and HR services are a part of integrated business solution. Now most of select organizations have also activated HR services on mobile phone platform and employee can download apps and can access services in any where -any place- 24*7 mode; provided net connectivity. CIL is laggard in self service applications and digitization of HR services only limited to transactional and publishing of information. Interactive voice response (IVR) hardly finds any space in providing HR related services in select Indian organizations.

CHAPTER-4

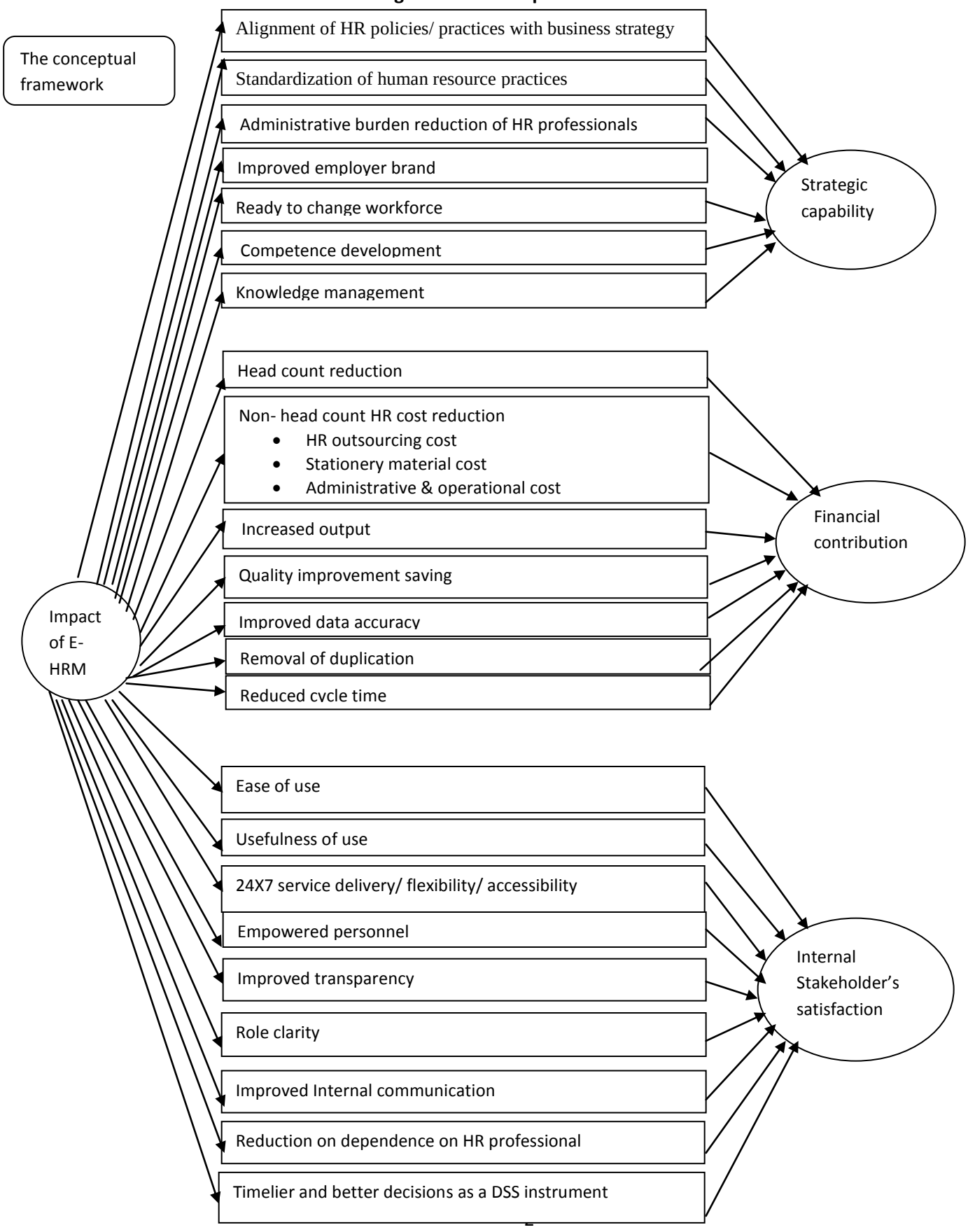
FRAMEWORK, OBJECTIVES AND METHODOLOGY

Since advent of the nineties, organizations have increasingly introduced internet -based applications for human resource function, generally known as digital human resource management, virtual human resource management or electronic human resource management, and at late nineties, academic research of e-HRM, with different constructs and perspective had started globally. E-HRM is a comparatively new area of research, it is challenging, innovative, and has very wide scope of research especially as there is dearth of empirical research in Indian context and exclusive studies that investigate impact of e-HRM in term of strategic contribution, financial contribution, and internal stakeholder's satisfaction. This chapter provides basic construct and conceptual framework of research, sample organizations selected and demographic variables of the respondents.

4.1 Conceptual Framework- The comprehensive analysis of the literature carefully had provided link between constructs and possible outcomes. The conceptual framework had facilitated in finding how combination of association will have effect on end results. During literature review different thoughts progressed as if totally theoretical and independent of being a provisional or tentative outline to investigate and verify assumptions in the mean while the other hand, bond among diverse perceptions were observed and used next to, conjectural developments to verify assumptions by intentionally plotting the attributes. The theoretical framework had been taken as a master plan of research and had provided the direction and laid the path of exploration. This framework is a critical device for the study with several deviations along with perspectives. As per Shields, and Rangarjan, (2013) "framework as the way ideas are arranged to avail research study rationale".

E-HRM literature review has provided the broader framework of research. This framework is blueprint of assumptions, thoughts, and beliefs and provides direction of the path that handles together the ideas of a broader concept. The conceptual framework has identified research variables, and tried to clarify tentative relationships among the variables. Using different statistical tools it has been tested and verified whether it holds good or not.

Figure- 4.1: Conceptual Framework



4.2 Research Problem - Against the background of the above discussion, the research problem is stated as follows-

- What is the present level/form of e-HRM in Indian organizations?

- What are the different e-HRM instruments/tools are being used in Indian organizations?

- To what extent e-HRM has impact on performance of Indian organizations?

These research problems have been converted into comprehensive research objectives.

4.3 Research Objectives

1) To examine present level/form of e-HRM in Indian organizations.

2) To identify the extent to which different e-HRM instruments/tools being used in Indian organizations.

3) To examine the extent to which E-HRM facilitates HR function in achieving strategic capability for Indian organizations.

4) To assess the impact of e-HRM in Indian organizations in terms of financial contribution

5) To assess the impact of e-HRM in Indian organizations in terms of improvement in internal stakeholder's satisfaction.

4.4 Research Hypothesis

Research hypothesis has been classified as per the five major research objectives. For convenience and better understanding these research hypotheses has been mentioned and tested with separate heading.

4.5 Research Methodology

This study is exploratory in character as one of salient purposes of the study is to gain familiarity with the different parameters of e-HRM like relevance of e-HRM, level of e-HRM, e-HRM tools, role of e-HRM in increasing internal stakeholder satisfaction, role of e-HRM as strategic capability builder, role of e-HRM as financial contributor in Indian organizations.

To achieve new insight into it and portray accurately the current situation of Indian organizations in implementation of e-HRM, a descriptive research using primary data was

supposed most suitable to examine the objectives and test the hypothesis. The study has offered and analyzed the compiled data facilitated by statistical method.

4.5.1 Research Instrument - Unstructured interview has been used as research instrument to elicit information regarding different aspects of e-HRM especially information related to e-HRM tools. It had been useful to extract information related to prevalent e-HRM practices and some interesting and unique HR services that their organisation is providing on digital platform. Self service practices, ERP and application of web 2.0 technology were the most prominent area of unstructured interview.

The study has utilized structured closed ended comprehensive questionnaire as the main research instrument for testing of hypothesis and studies related to research objective and research question. All the internal stakeholders like operatives, supervisors, executive/managers of select Indian organizations were the potential respondents. First page of survey dealt with the introduction, purpose of the study, assurance of confidentiality and anonymity. Second page and onwards dealt with profile of respondents and actual survey. Likert's scale with intensity of 1-5 has been applied to compile the preference of respondents related to chosen attributes. Three set of questionnaire has been formulated.

Table- 4.1: Questionnaire Set

Set No	Employee Category	Sections Included	Targeted objectives
Set-1	Operatives **(**Junior)	Section-1 Profile of the Respondents section-2 E-HRM Instruments/ Tools section-3-Stakeholder's Satisfaction	2, 5
Set-2	Supervisors **(**Middle**)**	Section-1 Profile of the Respondents section-2 E-HRM Instruments/ Tools section-3-Stakeholder's Satisfaction Section-4 Form / Level of e-HRM	1, 2, 5
Set-3	Managers (executives)	Section-1 Profile of the Respondents section-2 E-HRM Instruments/ Tools section-3-Stakeholder's Satisfaction Section-4 Form / Level of e-HRM Section-5 Strategic Capability Section-6 Financial Contribution	1, 2, 3, 4, 5

Source –Formulated by scholar

4.5.2 Data Collection Process- The study was accomplished by closed ended structured questionnaire. Some questionnaires were mailed through post, some questionnaires were sent on line by providing a link using Google Docs. Some time researcher has to personally meet the respondent for questionnaire to be filled up. The researcher personally met the respondents and solicited their kind cooperation in filling up the questionnaire. They were approached during their convenient times without causing much dislocation to their routine work. They were also assured that their replies will be utilized barely for scholastic intention and were guaranteed of complete privacy and secrecy on the information sought after. Due to thorough follow up and friendly approach the researcher was able to collect necessary data from the respondents selected for the study.

4.5.3 Sample Unit (Unit of Analysis) - As there are numbers of organizations in India, selection of the participant organizations is based on some criteria.

- Organizations having sound HR process, practices, mechanism have been preferred over organizations lacking in these aspect.

- Organizations delivering HR activities/functions on electronic/digital platform has been preferred.

- There is always constrain of resource and time in research, so the organizations having proximity to Nation Capital Region (NCR), Delhi has been preferred, but most of the organizations have pan India presence.

- Sample organization has been selected from varied manufacturing-mining-services-public-private organizations to have diverse outlook, so that research can depict true picture of Indian organizations as a whole in terms e-HRM.

The research comprises of eight Indian organizations selected as sample organizations and it consist of public and private organizations both from manufacturing /mining sector and services sector in equal numbers. These blue chip organizations are having sound HR practices and market leader in that particular segment. The selections of participant organizations were non-

random sampling. These organizations were selected on judgmental, purposive sampling method.

Table- 4.2: Sample Organizations

Organization	Manufacturing /Mining	Services
Public	1.National Thermal Power Corporation (NTPC) 2.Coal India Ltd. (CIL)	3. State Bank of India (SBI) 4. Life Insurance Corporation of India (LIC)
Private	5. Moser Baer India Ltd 6. Tata Motors	7. ICICI Bank Ltd 8.HCL

Source –Formulated by scholar

4.5.4 Research Sample and Technique - The selections of respondents were non- random sampling. The respondents were selected on convenience sampling techniques. Research sample (respondents) consists of employee of above mentioned organizations irrespective of their functional area. For research objective number first, research samples (target respondents) were supervisors and managers. For research objective number no second and fifth research samples (target respondents) were all the internal stakeholders like operatives, supervisors, managers. For research objective number third and fourth research sample (target respondents) were managers.

Table- 4.3: Target Respondents

Research Objective	Employee Category	Valid Response
1-Level/ form of e-HRM	Supervisors, Managers	283
2 E-HRM Instruments/ Tools	Operatives, Supervisors, Managers	405
3 Strategic capability	Managers	162
4 Financial contribution	Managers	162
5.Stakeholder's satisfaction	Operatives, Supervisors, Managers	405

Source –Formulated by scholar

Categories of target respondents were decided on awareness and exposure to a specific research problem.

4.6 Validity Test- In order to collect reliable data and arrive at valid generalizations from the study, the drafted questionnaire was examined for validity test in the form of face validity and content validity. A test was conducted to evaluate how well the questionnaire has been understood. As per feedback changes were made by deleting some questions, adding new questions, providing alternative wordings of questions and determining some other response could be provided. The test was conducted with assistance of four experts two drawn from academics and two from corporate world. The experts thoroughly scrutinized the various item according to the definition generated against the of level of e-HRM, e-HRM tools, role of e-HRM in increasing internal stakeholder's satisfaction, role of e-HRM as strategic capability builder, role of e-HRM as financial contributor in Indian organizations. The experts discussed the validity of each item in gathering the required information needed for the study. Their feedback was obtained on each of the items. Based on the feedback, the questionnaire was modified, deleting some questions, rewording certain and adding some more items at appropriate places particularly on the advice of the professional experts i.e., academicians, line managers, HR practitioners.

4.7 Reliability Test-A pilot study was conducted after taking ultimate decision on number of items in the research instrument. The pilot study has rationale to examine the constructed research instrument's reliability and if required modify and edit the research instrument.

The pilot study with 80 response was conducted and found Cronbach's alpha value is more than 0.7, hence it was interpreted that research instrument was reliable.

The pilot study discovered that the instrument has ample motivational value to compile authentic reaction from surveyed employee of select Indian organizations. The dialogue with the respondent employees also revealed that the measures implemented in administering the questionnaire are practical. On the whole the pilot study gave the confidence that, the questionnaire applied in the research would extract the needed data and information from the respondents.

4.8 Sample Size and Response-

Table-4.4: Breakup of Survey

Organization Name	No. of Employees (Tentative)	No. of Respondents Contacted	No. of Responses Received	No. of Valid Responses
CIL	357,926	143	54	50
HCL	88,000	146	55	51
ICICI	60,000	145	53	50
LIC	119,767	150	56	51
MOSER BAER	8,000	145	57	51
NTPC	25,484	147	58	50
SBI	228,296	146	60	52
TATA MOTORS	62,716	142	57	50
Total	9,50,189	1164	450	405

Source –Formulated by scholar

With 95% confidence level with a total population of 950,189 sample size needed is 384 **(**margin of error- 5%).

Guessing 33 % (one out every three) as good response rate, total number of 1164 questionnaire were sent for survey (see table-4.4). Out of 180 questionnaire (surveys) send online, 32 respondents filled the questionnaire and submitted i.e. response rate of 17.8%. Out of 984 questionnaire (surveys) provided to respondents in hard copy format 418 responses were collected i.e. response rate of 42.5%.total 450 responses out of a total number of surveys of 1164 i.e. overall response rate of 38.7%**.** Out of 450 responses 405 responses were found valid. Response having discrepancy and incomplete, not fit for further processing were discarded.

4.9 Demographic Structure of Respondents- Table 4.8 elicits the demographic distribution of respondents entered for final data analysis and interpretation. Out of 405 valid responses, for compatibility and convenience in data analysis and hypothesis testing, 50 responses from each organization (Total-50*8=400) were entered for final statistical analysis and interpretation.

Table-4.5: Distribution of Respondents on the Basis of Demographic Variables.

Demographic Variables	**Parameters**	**No of Respondents**	**% of Respondents**
Organization Name	CIL	50	12.5
	HCL TECHNOLOGIES	50	12.5
	ICICI BANK	50	12.5
	LIC	50	12.5
	MOSER BAER	50	12.5
	NTPC	50	12.5
	SBI	50	12.5
	TATA MOTORS	50	12.5
Qualification	10th / ITI/ (10)	12	3.0
	Intermediate/ Diploma	42	10.5
	Graduate/Degree	176	44.0
	Postgraduate	170	42.5
Position:	Operative(Junior)	120	30.0
	Supervisor(Middle)	120	30.0
	Manager (Executive)	160	40.0
Functional area	Marketing	57	14.2
	Human resource	69	17.2
	Information technology	51	12.8
	Finance	49	12.2
	Production/ Operations	131	32.8
	Others	43	10.8
Trade union official	Yes	15	3.8

Demographic Variables	Parameters	No of Respondents	% of Respondents
	No	385	96.2
Experience	1-5	117	29.2
	5-10	61	15.2
	10-15	81	20.2
	15-20	45	11.2
	20 years &	96	24.0
Gender	Male	334	83.5
	Female	66	16.5
Age	20-30	133	33.2
	30-40	139	34.8
	40-50	63	15.8
	50-60	65	16.2
	60 years & above	0	0

Source –Formulated by scholar

Data shows 44% (highest) of respondents are graduates, 40% (highest) of respondents were managers, only 3.8% respondents were trade union official, experience wise 20.2% (highest) of respondents were having 10-15 years of work experience, 16.5% respondents were female, and 34.8% (highest) of respondents were in age group of 30-40.

CHAPTER: 5

DATA ANALYSIS AND HYPOTHESIS TESTING

This chapter of thesis elaborates, discusses moreover investigates research hypothesis by statistical analysis of surveyed data. The discussion on these finding are based towards achieving research objectives.

5.1 Hypothesis Formulation (Level/ Form of e-HRM)- To analyze research objective no. 1, **"**To examine present level/ form of e-HRM in Indian organizations", with main hypothesis three more hypothesis has been formulated so that analysis could be done through different perspective and the study could provide clear picture of level of e-HRM in Indian context.

Research Hypothesis (H0- Null hypothesis, H1- Alternate hypothesis)

A1) H0- There is no significant difference in mean value of present level of e-HRM and test mean value.

A1) H1- There is significant difference in mean value of present level of e-HRM and test mean value.

A2) H0- There is no significant difference in mean value of level of e-HRM between private and public organizations.

A2) H1- There is significant difference in mean value of level of e-HRM between private and public organizations.

A3) H0- There is no significant difference in mean value of level of e-HRM between manufacturing/mining and service organizations.

A3) H1- There is significant difference in mean value of level of e-HRM between manufacturing/mining and service organizations.

A4) H0 There is no significant difference in mean value of level of e-HRM among select Indian organizations.

A4) H1 There is significant difference in mean value of level of e-HRM among select Indian organizations.

5.1.1 Data Analysis and Interpretation- Factor analysis is a method used to express variability among observed, interrelated variables in terms of a potentially lesser number of unobserved variables called factors, so it has been used as an instrument to classify the questionnaire in different groups. Exploratory factor analysis has been used as tool to categories the variables. One sample t-test had been used to test the hypothesis A1. Paired sample t-test has been used to test hypothesis A2 and A3. One way ANOVA has been used as a statistical instrument to test hypothesis A4.

TABLE-5.1: Factor Analysis of e-HRM Level Attributes

Attributes	**Transformational**	**Relational**	**Operational**
Administration (supports)			.948
Time and labour management (supports)			.941
Face-to-face HR services (IT replacing)			.483
Publishing of HR information(supports)			.565
Web presence of HR function			.572
Transactional HR function (supports)			.936
Human resource planning (supports)		.515	
Recruitment (supports)		.852	
Selection (supports)		.758	
Training & development (supports)		.656	
Performance appraisal (supports)		.549	
Reward & compensation (supports)		.531	
Pen & paper (IT replacing)		.729	
Automation of HR transactions(supports)		.786	

Attributes	Transformational	Relational	Operational
Traditional HR function (performs)		.774	
Job design(supports)	.642		
Integrated set of web based tools	.803		
Mutation of HR transaction(supports)	.660		
Electronically (services offered)	.716		
Strategic HR task (supports)	.785		
Centres of expertise	.771		
Eigen values	10.154	2.604	1.424
Percentage of variance	48.354	12.401	6.780
Cumulative percent	48.354	60.755	67.535
Kaiser-Meyer-Olkin Measure of Sampling Adequacy .896, Bartlett's Test of Sphericity- 6.172, Degree of freedom-210, Significance-0.00, Cranach's Alpha of 0.946 shows questionnaire are reliable.			

Source – Data analysis by scholar

Sampling Adequacy Measure of Kaiser-Meyer- Olkin has a value of .896, reveals the fact that the sample is large enough to conduct factor analysis as any value greater than 0.6 is good for conducting research in social science. Bartlett's Sphericity Test examines relatedness of variables and if the matrix is diagonal matrix then null hypothesis is accepted and indicates there is no relation among variable. In this study significance level is 0.00 showing null hypothesis has been rejected, indicating variables are correlated. (Null hypothesis of Bartlett's of Sphericity Test assumes that variable do not have significant relationship.)

Exploratory factor analysis has been executed with Varimax rotation and Principal Component Analysis (PCA). Table 5.1 depicts, matrix of rotated factors encompassing all 21 variables. All extracted factors have more than 1 Eigen value, the table shows the variance percentage along with cumulative percentage of variance. Three factors have been extracted out of twenty one variables. The Eigen values of these three factors are 10.154, 2.604, and 1.424. In total 67.535% of variance has been retained by three factors. This indicates more than half the information has been retained and only 32 .465 per cent of information is lost. The extracted factors as follows.

Operational- This explains 6.780% of the total variance and retaining Eigen value of 1.424 and loading range from 0.565 to 0.948. The attributes covered here are Administration (supports), Time and labour management (supports), Publishing of HR information (supports), Web presence of HR function, and Transactional HR function (supports). These are basic attributes of operational e-HRM.

Relational-This factor is concerned with the dealings and linkages of the different human resource management stakeholders. This factor has total variance of 12.401 and Eigen value of 2.604 and loading range from 0.515 to 0.852. The attributes covered are, Human resource planning (supports), Recruitment (supports), Selection (supports), Training and development (supports), Performance appraisal (supports), Reward and compensation (supports), Pen & paper (IT replacing), Automation of HR transactions(supports) and Traditional HR function (performs).

Transformational- The attributes covered are Job design (supports), integrated set of web based tools, Mutation of HR transactions, Electronically (services offered), Strategic HR task (supports) and Centres of expertise. These factors have total variance of 48.354and Eigen value of 10.154 and loading range from 0.660 to 0.803. Face-to-face HR services (IT replacing) as an element does not fit in any of the factors, so has been omitted.

5.1.2 Hypothesis Testing

5.1.2.1 E-HRM Level- To test the hypothesis A1 (There is no significant difference in mean value of present level of e-HRM and test value), one sample t -test has been used applying hypothesized test value of 3.5, assuming that a mean value of 3.5 will support the null hypothesis The main goal is to have a comparative study of sample mean with assumed mean for probability estimation, and to assess whether the difference is real or by chance. Likert scale in the range of 1-5 has been used for response measurement.

TABLE- 5.2: One-Sample t-Test of e-HRM Level Attributes

Case		Attributes	Mean	t	Sig. (2-tailed)
Operational Attributes	Case-1	Administration (supports)	4.3071	14.824	.000*
		Time and labour management (supports)	4.2964	14.665	.000*
		Publishing of HR information(supports)	4.0143	8.881	.000*
		Web presence of HR function	3.9000	7.657	.000*
		Transactional HR function (supports)	4.2929	14.613	.000*
Relational Attributes	Case-2	Human resource planning (supports)	3.7036	3.093	.002*
		Recruitment (supports)	3.7214	3.584	.000*
		Selection (supports)	3.8000	4.851	.000*
		Training & development (supports)	4.0036	8.487	.000*
		Performance appraisal (supports)	4.0179	8.235	.000*
		Reward & compensation (supports)	3.7321	3.514	.001*
		Pen and paper (IT replacing)	3.9857	8.143	.000*
		Automation of HR transactions(supports)	3.6036	1.842	.067
		Traditional HR function (performs)	3.5821	1.407	.160
Transformational attributes	Case-3	Job design(supports)	3.5393	.564	.573
		Integrated set of web based tools	3.7607	3.970	.000*
		Mutation of HR transaction(supports)	3.7429	4.230	.000*
		Electronically (services offered)	3.7750	4.265	.000*
		Strategic HR task (supports)	3.7821	4.601	.000*
		Centres of expertise	3.8107	5.163	.000*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F. 279, Sig 5%)

Case-1 All the attributes of operational level has low significance values of 0.00, indicates that there is a significant difference between the test value and the observed mean value so null

hypothesis is rejected. Mean value of all the e-HRM level attributes is above the test value hence it can be concluded that e-HRM is operational level in Indian organizations.

Case-2 Most of the attributes of relational level is having significance value less than 0.05, indicates there is significant difference between the test value and the observed mean value, so null hypothesis is rejected. For attributes Automation of HR transactions (supports) and Traditional HR function (performs), significance level is above 0.05 thus null hypothesis is accepted. So null hypothesis is partially rejected and can be concluded that e-HRM is not at relational level for all the attributes.

Case-3 Most of the attributes of transformational level is having significance value less than 0.05, hence null hypothesis is rejected and it can be inferred that there is significant difference between the test value and the mean value is not by chance. So null hypothesis is rejected but attribute Job design (supports) has a significance value more than 0.05, accepts the null hypothesis. Hence hypothesis (H0) is partially rejected and can be concluded that e-HRM is not at transformational level for all the attributes.

Overall null hypothesis A1 is partially rejected and can be concluded that e-HRM is not above the test mean level for all the attributes.

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5.1.2.2 E-HRM Level (Private vis-a-vis Public) - To test the hypothesis A2 (There is no significant difference in mean value of level of e-HRM between private and public organizations) paired sample t- test has been used as a statistical tool.

TABLE – 5.3: Paired Sample t-Test of e-HRM Level Attributes (Private vis-a-vis Public)

Case	Pair	attributes	Mean Pvt.	Mean public	Mean Diff.	t	Sign
Operational attributes **Case-4**	1	Administration (supports)	4.3786	4.2357	.1429	1.541	.125
	2	Time & labour management (supports)	4.3786	4.2143	.1643	1.794	.075
	3	Publishing of HR information(supports)	4.1714	3.8571	.3143	2.996	.003*
	4	Web presence of HR function	4.0143	3.7857	.2286	2.426	.017*
	5	Transactional HR function (supports)	4.3786	4.2071	.1715	1.868	.064
Relational attributes **Case-5**	6	Human resource planning (supports)	3.9286	3.4786	.4500	3.495	.001*
	7	Recruitment (supports)	3.7643	3.6786	.0857	.749	.455
	8	Selection (supports)	3.9357	3.6643	.2714	2.256	.026*
	9	Training & development (supports)	4.1500	3.8571	.2929	2.491	.014*
	10	Performance appraisal (supports)	4.1143	3.9214	.1929	1.570	.119
	11	Reward & compensation (supports)	3.8429	3.7143	.1286	.973	.332
	12	Pen and paper (IT replacing)	4.0929	3.9643	.1286	1.466	.145
	13	Automation of HR transactions	3.6286	3.4500	.1786	1.864	.064
	14	Traditional HR function (performs)	3.7357	3.4286	.3071	2.779	.006*
Transformational attributes **Case-6**	15	Job design (supports)	3.8500	3.2286	.6214	5.100	.000*
	16	Integrated set of web based tools	4.0429	3.4786	.5643	4.787	.000*
	17	Mutation of HR transaction(supports)	3.9500	3.5357	.4143	3.862	.000*
	18	Electronically (services offered)	4.1286	3.4214	.7072	6.491	.000*
	19	Strategic HR task (supports)	3.9929	3.5714	.4215	3.617	.000*
	20	Centres of expertise	4.0000	3.6214	.3786	3.232	.002*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (D.F. 139, Sig 5%)

Case-4 Null hypothesis-A2 is partially rejected as significance level of the attribute Publishing of HR information (supports), Web presence of HR function is below 0.05. For all other three attributes null hypothesis is accepted as significance level is above 0.05. So it can be concluded that difference in mean value of level of e-HRM between public and private organization is not zero for all the attributes of operational e-HRM.

Case-5. Null hypothesis- A2 is partially rejected as significance level of the attribute Human resource planning (supports), Selection(supports),Training & development (supports), and Traditional HR function(performs) is below 0.05. For all other five attributes null hypothesis is accepted as significance level is much above .05. So it can be concluded that the difference in mean value of level of e-HRM between public and private organization is not zero for all the attributes of relational e-HRM

Case-6 Null hypothesis- A2 is rejected as significance level of the all the attribute, is below 0.05. So it can be concluded that there is significant difference in mean value of level of e-HRM between public and private organization for all the attributes of transformational e-HRM. Overall null hypothesis A2 is partially rejected.

5.1.2.3 E-HRM Level (Manufacturing / Mining vis-à-vis Services) - To test the hypothesis A3 (There is no difference in mean value of level of e-HRM between manufacturing/ mining and services organization) paired sample t- test has been used as a statistical tool.

TABLE – 5.4: Paired Sample t-Test of e-HRM Level Attributes (Manufacturing/Mining vis-a-vis Services)

Case	Pair	Attributes	Mean Mfg/ Min	Mean service	Mean Diff.	t	Sign
Operational attributes Case-7	1	Administration (supports)	4.2357	4.3786	-.1428	-1.580	.116
	2	Time & labour management (supports)	4.2143	4.3786	-.1642	-1.839	.068
	3	Publishing of HR information(supports)	3.9071	4.1214	-.2142	-1.982	.050
	4	Web presence of HR function	3.9214	3.8786	.0428	.434	.665
	5	Transactional HR function (supports)	4.2071	4.3786	-.1714	-1.915	.057
Relational attributes Case-8	6	Human resource planning (supports)	3.6000	3.8071	-.2071	-1.465	.145
	7	Recruitment (supports)	3.5000	3.9429	-.4428	-4.034	.000*
	8	Selection (supports)	3.5571	4.0429	-.4857	-4.071	.000*
	9	Training & development (supports)	3.7714	4.2357	-.4642	-4.123	.000*
	10	Performance appraisal (supports)	3.8500	4.1857	-.3357	-2.773	.006*
	11	Reward & compensation (supports)	3.4214	4.0429	-.6214	-4.588	.000*
	12	Pen & paper (IT replacing)	3.8786	4.0929	-.2142	-1.964	.051
	13	Automation of HR transactions (supports)	3.6786	3.5286	.1500	1.431	.155
	14	Traditional HR function (performs)	3.5643	3.6000	-.0357	-.317	.752
Transformational attributes Case-9	15	Job design (supports)	3.4500	3.6286	-.1785	-1.362	.175
	16	Integrated set of web based tools	3.7143	3.8071	-.0928	-.729	.467
	17	Mutation of HR transaction(supports)	3.6500	3.8357	-.1857	-1.603	.111
	18	Electronically (services offered)	3.6071	3.9429	-.3357	-2.865	.005*
	19	Strategic HR task (supports)	3.5500	4.0143	-.4642	-3.798	.000*
	20	Centres of expertise	3.6357	3.9857	-.3500	-3.101	.002*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (D.F 139, Sig 5%)

Case-7 Null hypothesis-A3 is accepted as significance level of all the attributes is equal or above .05. So it can be said there is no significant difference in mean value of level of e-HRM between manufacturing/mining and service organization for operational e-HRM.

Case-8 Null hypothesis-A3 is partially rejected as significance level of attributes Recruitment (supports), Selection (supports), Training (supports), Performance appraisal (supports), Reward & Compensation (supports) is below 0.05. For all other four attributes null hypothesis is accepted as significance level is above 0.05. So it can be concluded that difference in mean value of level of e-HRM between manufacturing/mining and services organization is not zero for all the attributes of relational e-HRM.

Case-9 Null hypothesis-A3 is partially rejected as significance level of three attributes, Electronically (services offered), Strategic HR task (supports) and Centre of expertise is below 0.05. For other three attributes null hypothesis is accepted as significance level is above 0.05, so it can be concluded that difference in mean value of level of e-HRM between manufacturing/mining and services organization is not zero for all the attributes of transformational e-HRM. Overall null hypothesis A3 is partially rejected.

5.1.2.4 E-HRM Level (Organization vis-a-vis Organization)-To examine the null hypothesis (H0) A4 (There is no difference in mean values of level of e-HRM among select Indian organizations) one way ANOVA has been used as a statistical tool.

Table-5.5: One way ANOVA e-HRM Level Attributes (Organization vis-à-vis s Organization)

Attribute	Mean (Organization wise)								Mean	F	Sign.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	T M			
Administration	3.57	3.94	4.51	4.60	4.88	4.31	4.46	4.17	4.30	8.419	.00*
Time & labour	3.49	3.95	4.52	4.60	4.89	4.31	4.45	4.17	4.29	9.662	.00*
Publishing	3.48	4.11	4.29	4.23	4.31	3.86	3.86	3.97	4.01	3.083	.004*

Attribute	Mean (Organization wise)								Mean	F	Sign.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	T M			
Web presence	3.43	3.57	4.11	4.06	4.40	3.89	3.77	3.97	3.90	4.823	.00*
Transactional	3.46	3.94	4.51	4.60	4.89	4.31	4.46	4.17	4.29	10.12	.00*
HRP	2.51	3.91	3.74	3.97	4.46	3.82	3.60	3.60	3.70	11.03	.00*
Recruitment	3.11	3.57	4.09	4.26	3.91	3.48	3.86	3.48	3.72	5.035	.00*
Selection	3.00	4.00	3.97	4.37	3.94	3.45	3.83	3.83	3.80	6.205	.00*
Training	2.83	4.14	4.17	4.46	4.37	3.97	4.17	3.91	4.00	11.60	.00*
Per. Appraisal	2.82	4.20	4.06	4.40	4.31	4.37	4.09	3.89	4.02	10.17	.00*
Reward	2.66	4.00	4.03	4.17	3.97	3.68	3.97	3.37	3.73	8.540	.00*
Pen and paper	3.20	3.57	4.31	4.26	4.31	3.83	4.23	4.17	3.99	6.895	.00*
Automation	3.11	3.58	3.14	3.40	4.17	3.80	4.00	3.63	3.60	6.512	.00*
Traditional	3.12	3.57	3.74	3.34	4.09	3.51	3.74	3.54	3.58	3.255	.002*
Job design	2.17	3.49	4.11	3.86	3.89	3.83	3.06	3.91	3.54	14.07	.00*
Integrated set	2.31	3.83	4.03	3.86	4.14	4.23	3.51	4.17	3.76	15.71	.00*
Mutation	2.89	3.91	3.89	3.97	4.06	3.71	3.57	3.9	3.74	6.153	.00*
Electronically	2.60	3.94	4.54	4.00	4.40	3.80	3.29	3.63	3.77	15.95	.00*
Strategic	2.54	4.03	4.17	3.86	4.03	3.89	4.00	3.74	3.78	11.17	.00*
Expertise	2.63	3.91	4.20	3.88	4.26	4.03	3.94	3.63	3.81	11.63	.00*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (D.F 7/272, Sig 5%)

Short forms used in table: Administration -Administration (supports), Time & labour- Time & labour management (supports), Publishing-Publishing of HR information (supports), Web presence- Web presence of HR function, Transactional-Transactional HR function (supports), HRP- Human resource planning (supports), Recruitment-Recruitment (supports), Selection - Selection (supports), Training-Training & development (supports), Per. Appraisal-Performance appraisal (supports), Reward-Reward & compensation (supports), Pen and paper-Pen and paper(supports), Automation-Automation of HR transactions (supports),Traditional-Traditional HR function (performs), Job design-Job design (supports), Integrated set-Integrated set of web based tools, Mutation-Mutation of HR transaction , Electronically-Electronically (services offered), Strategic-Strategic HR task (supports) , Expertise-Centres of expertise.

Table-5.5 shows computed significance value all the e-HRM level attributes is below the assumed significance level, so null hypothesis A4 is rejected and it can be said that level of e-HRM is different among select Indian organizations

5.2 Hypothesis Formulation (e-HRM Instruments/ Tools)- To analyze research objective no.2 **"**To identify the extent to which different e-HRM Instruments/ Tools being used in Indian organizations", with main hypothesis three more hypothesis has been formulated so that analysis could be done through different perspective and the study could provide clear picture of different e-HRM instruments/ tools being used in Indian organizations.

Research Hypothesis – (H0- Null hypothesis, **H1- Alternate hypothesis**)

B1) H0- There is no significant difference in present mean value of application of different e-HRM tools and test mean value.

B1) H1- There is significant difference in present mean value of application of different e-HRM tools and test mean value.

B2) H0- There is no significant difference in present mean value of application of e-HRM tools between private and public organizations.

B2) H1- There is significant difference in present mean value of application of e-HRM tools between private and public organizations.

B3) H0- There is no significant difference in present mean value of application of e-HRM tools between manufacturing/mining and services organizations.

B3) H1- There is significant difference in present mean value of application of e-HRM tools between manufacturing/mining and services organizations.

B4) H0-- There is no significant difference in present mean value of application of e-HRM tools among select Indian organizations

B4) H1-- There is significant difference in present mean value of application of e-HRM tools among select Indian organization

5.2.1 Data analysis and interpretation - One sample t-test had been used to test the hypothesis B1, paired sample t- Test has been used to test the hypothesis B2 and B3**.** ANOVA has been used to test the hypothesis B4. The value of Cronbach's Alpha is 0.812 confirms questionnaire is reliable.

5.2.2 HYPOTHESIS TESTING

5.2.2.1 E-HRM Instruments/ Tools - To test the hypothesis B1 (There is no significant difference in present mean value of application of different e-HRM tools and test value), one sample t -test has been used applying hypothesized test value of 3.5, assuming that a mean value of 3.5 will support the null hypothesis B1.

Table-5.6: One-Sample t-Test of e-HRM Instruments/ Tools

Attributes	Test Value = 3.5 Degree of freedom = 399		
	Mean	t	Sig. (2-tailed)
Interactive Voice Response (IVR)	2.427	-18.975	.000*
HR Intranet Application (HRIA)	4.147	12.929	.000*
Self Service Application (SSA)	3.875	6.222	.000*
HR Extranet Application (HREA)	3.060	-6.284	.000*
HR Portal Application (HRPA)	3.602	1.555	.121
HR Functional Application (HRFA)	2.682	-17.009	.000*
Integrated HRM Suite Application (ISA)	3.670	3.079	.002*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (DF 399, Sig 5%)

In case of Interactive Voice Response (IVR) low significance values of 0.00 indicates that there is a significant difference between the test value and the observed mean value, so null hypothesis is rejected. Observed mean value (2.427) is less than the test value (3.5) hence it can be concluded that Interactive Voice Response (IVR) as an instrument not much utilized in Indian organizations.

In case of HR Intranet Application (HRIA) low significance values of 0.00 indicates that there is a significant difference between the test value and the observed mean value, and so null hypothesis is rejected. Observed mean value (4.147) is more than the table value (3.5) hence it can be concluded that HR Intranet Application (HRIA) as an instrument extensively utilized in Indian organizations.

In case of Self Service Application (SSA), low significance values of 0.00 indicate that there is a significant difference between the test value and observed mean value, so the null hypothesis is rejected. Observed mean value (3.875) is more than the test value (3.5) hence it can be concluded that Self Service Application (SSA) as an instrument extensively utilized in Indian organizations.

In case of HR Extranet Application (HREA) low significance values of 0.00 indicates that there is a significant difference between the test value and the observed mean value, so null hypothesis is rejected. Observed mean value (3.060) is less than the test value (3.5) hence it can be concluded that HR Extranet Application (HREA) as an instrument not much utilized in Indian organizations.

In case of HR Portal Application (HRPA) significance values of 0.121 indicates that there is no significant difference between the test value and observed mean value, so null hypothesis is accepted. Based on this result it can be concluded that application of HR Portal Application (HRPA) as an instrument is moderately utilized in Indian organizations.

In case of HR Functional Application (HRFA) low significance values of 0.00 indicates that there is a significant difference between the test value and the observed mean value, so null hypothesis is rejected. Observed mean value (2.682) is less than the test value (3.5), hence it can be concluded that as HR Functional Application (HRFA) an instrument not much utilized in Indian organizations.

In case of Integrated HRM Suite Application (ISA) low significance values of 0.02 indicates that there is a significant difference between the test value and the observed mean value, so null hypothesis is rejected. Observed mean value (3.670) is more than the test value (3.5), hence it can be concluded that Integrated HRM Suite Application (ISA) as an instrument is extensively utilized in Indian organizations.

Overall null hypothesis B1 is partially rejected and can be concluded that only HR Intranet Application (HRIA), Self Service Application (SSA), Integrated HRM Suite Application (ISA) is extensively utilized as e-HRM tool/instrument in select Indian organizations. HR Portal Application (HRPA) as an instrument is moderately utilized. Interactive Voice Response (IVR), HR Functional Application (HRFA) as an instrument not much utilized in select Indian organizations.

5.2.2.2 E-HRM Instruments/ Tools (Public vis-a-vis Private) - To test the hypothesis B2 (There is no significant difference in present mean value of application of e-HRM tools between private and public organizations), paired sample t- test has been used as a statistical tool.

TABLE-5.7: Paired Sample t-Test of e-HRM Instruments/ Tools (Private vis-à-vis Public)

Pair	Tool	Mean Private	Mean Public	Mean Difference	t	Sign
1	Interactive Voice Response (IVR)	2.77	2.085	.685	7.579	.000*
2	HR Intranet Application (HRIA)	4.44	3.855	.585	6.198	.0008*
3	Self Service Application (SSA)	4.215	3.535	.680	6.356	.000*
4	HR Extranet Application (HREA)	3.555	2.565	.99	8.437	.000*
5	HR Portal Application (HRPA)	4.00	3.205	.795	6.699	.000*
6	HR Functional Application (HRFA)	2.685	2.68	.005	.051	.959
7	Integrated HRM Suite Application (ISA)	4.065	3.275	.79	7.969	.0008*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (DF 199, sig 5%)

Table-5.7 shows null hypothesis-B2, for Interactive Voice Response (IVR), HR Intranet Application (HRIA), Self Service Application (SSA), HR Functional Application (HRFA), HR Portal Application (HRPA), Integrated HRM Suite Application (ISA) is rejected as the significance level is much below the assumed significance level of 0.05, So application of these tools are not same for public and private organizations. Null hypothesis-B for e-HRM tool, HR Functional Application (HRFA) is accepted as the significance level is above the assumed significance level of F at 0.05; hence application of HRFA is same for private and public organizations. Overall null hypothesis B2 is partially rejected.

5.2.2.3 E-HRM Instruments/ Tools (Manufacturing/Mining vis-a-vis Services) -To test the hypothesis B3 (There is no significant difference in present mean value of application of e-HRM tools between manufacturing/mining and services organizations) paired sample t-test has been used as a statistical tool.

TABLE- 5.8: Paired Sample t-Test of e-HRM Instruments/ Tools (Manufacturing/Mining vis-à-vis Service)

Pair	Tool	Mean Mfg / Mining	Mean Service	Mean Difference	t	Sign
1	Interactive Voice Response (IVR)	2.37	2.485	-.115	-1.167	.245
2	HR Intranet Application (HRIA)	4.005	4.29	-.285	-2.847	.005*
3	Self Service Application (SSA)	3.84	3.91	-.07	-.584	.560
4	HR Extranet Application (HREA)	3.215	2.905	.31	2.115	.036*
5	HR Portal Application (HRPA)	3.515	3.69	-.175	-1.356	.177
6	HR Functional Application (HRFA)	2.51	2.855	-.345	-3.632	.000*
7	Integrated HRM Suite Application (ISA)	3.51	3.83	-.32	-2.915	.004*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (DF 199, Sig. 5%)

For HR Intranet Application (HRIA), HR Extranet Application (HREA), HR Functional Application (HRFA), Integrated HRM Suite Application (ISA) null hypothesis is rejected as the significance level is below the assumed significance level of 0.05.So, application of these tools are not same for manufacturing/mining and services sector. Null hypothesis-B3 for e-HRM tools Interactive Voice Response (IVR), Self Service Application (SSA), HR Portal Application (HRPA) is accepted as the significance level is above the assumed significance level 0.05, so application of these tools are not significantly different for manufacturing/mining and services sector. Overall it can be concluded that null hypothesis B3 is partially rejected for e-HRM tools taking manufacturing vis-a-vis service as paired sample test of comparison.

5.2.2.4 E-HRM Instruments/ Tools (Organization vis-a-vis Organization)-To test the hypothesis B4 (There is no significant difference in present mean values of application of e-HRM tools among select Indian organizations) one way ANOVA has been used as a statistical tool.

TABLE- 5.9: One way ANOVA of e-HRM Instruments/ Tools (Organization vis-a-vis s Organization)

Tools	Mean (Organization Wise)								Mean	F	Sig.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	TM			
IVR	1.4	2.1	3.3	2.48	3.04	2.4	2.06	2.64	2.43	18.02	.00*
HRIA	2.5	4.34	4.1	4.46	4.7	4.2	4.26	4.62	4.15	41.23	.00*
SSA	2.08	3.96	4.02	3.42	4.44	4.4	4.24	4.44	3.87	35.57	.00*
HREA	2	3.56	3.06	2.06	3.82	3.26	2.94	3.78	3.06	16.27	.00*
HRPA	2.02	3.86	3.92	2.94	4.22	3.82	4.04	4	3.60	21.80	.00*
HRFA	2.16	2.84	2.62	2.8	2.6	2.6	3.16	2.68	2.68	4.57	.00*
ISA	2.2	3.88	3.98	3.94	4.14	3.44	3.52	4.26	3.67	25.18	.00*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F. 7/392, sig 5%)

Table-5.9 shows significance level all e-HRM tools; Interactive Voice Response (IVR), HR Intranet Application (HRIA), Self Service Application (SSA), HR Extranet Application (HREA), HR Portal Application (HRPA), HR Functional Application (HRFA), and Integrated HRM Suite Application (ISA) is below the assumed significance level of F at 0.05so null hypothesis B4 is rejected and it can be concluded that level of all the e-HRM tools are different among Indian organizations.

5.3 Hypothesis Formulation (Strategic Capability) - To analyze research objective no. 3 "To examine the extent to which e-HRM facilitates HR function in achieving strategic capability for Indian organizations", with the main hypothesis five more hypothesis has been formulated so that analysis could be done through different perspective and the study could provide clear picture of strategic capability of e-HRM in Indian context.

Research Hypothesis (H0- Null hypothesis, H1- Alternate hypothesis)

C1) H0 - There is no significant difference in present mean value of strategic attributes of e-HRM and test value.

C1) H1 - There is significant difference in present mean value of strategic attributes of e-HRM and test value.

C2) H0 There is no significant difference in mean value of strategic attributes of e-HRM between private and public organizations.

C2) H1 There is significant difference in mean value of strategic attributes of e-HRM between private and public organizations.

C3) H0 There is no significant difference in mean value of strategic attributes of e-HRM between manufacturing/mining and service organizations.

C3) H1 There is significant difference in mean value of strategic attributes of e-HRM between manufacturing/mining and service organizations.

C4) H0 There is no significant difference in mean value of strategic attributes among different select Indian organizations.

C4) H1 There is significant difference in mean value of strategic attributes among select Indian organizations.

C5) H0 There exist no association between strategic attributes and strategic capability.

C5) H1 There exist association between strategic attributes and strategic capability

C6) H0 Strategic attributes of e-HRM have no significant impact on strategic capability of Indian organizations.

C6) H1 Strategic attributes of e-HRM have significant impact on strategic capability of Indian organizations.

5.3.1 Data analysis and interpretation. Beside descriptive statistics one sample t-test had been used to test the hypothesis C1. Paired Sample t-Test has been used to test the hypothesis C2 and C3**.** ANOVA has been used to test the hypothesis C4. Correlations analysis has been used to test

the hypothesis C5. Regression analysis has been used to test the hypothesis C6. A Cronbach's Alpha of 0 .947shows questionnaires is reliable.

5.3.2 HYPOTHESIS TESTING

5.3.2.1 Strategic Attributes Value- To test the hypothesis C1 (There is no significant difference in present mean value of strategic attributes of e-HRM and test value.), one sample t- test has been used applying a hypothesized test value of 3.5, assuming that a mean value of 3.5 will offer support to the null hypothesis C1.

TABLE- 5.10: One-Sample t-Test of Strategic Attributes

Attributes	**Test Value = 3.5 Degree of freedom =159**		
	Mean	**t**	**Sig. (2-tailed)**
Standardization of HR practices	3.6375	1.639	.103
Administrative burden reduction	3.8562	4.311	.000*
Employer brand (improves)	3.7250	2.803	.006*
Ready to change workforce	3.6188	1.489	.138
Competence of employee (increases)	3.6812	2.252	.026*
Knowledge management (supports)	3.7125	2.690	.008*
Alignment of HR practices with business strategy	3.8875	4.741	.000*
Strategic capability (increases)	4.0250	7.523	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (DF 159, sig 5%)

As per Table 5.10 for the strategic attributes, Administrative burden reduction, Employer brand (improves), Competence of employee (increases), Knowledge management(supports), Alignment of HR practices with business strategy, Strategic capability (increases) significance level is below assumed significance level of 0.05 indicates that there is a significant difference

between the test value and the observed mean value hence null hypothesis is rejected . Significance level of strategic attribute, Standardization of HR practices and Ready to change workforce is above the significance level of 0.05, hence null hypothesis is accepted. Over all null hypothesis C1 is partially rejected.

5.3.2.2 Strategic Capability (Public vis-a-vis Private) - To test the hypothesis C2 (There is no significant difference in mean value of strategic attributes of e-HRM between private and public organizations), paired sample t- test has been used as a statistical tool.

TABLE-5.11: Paired Sample t-Test of Strategic Attributes (Private vis-a-vis Public)

Pair	Attributes	Mean Private	Mean Public	Mean Difference	t	Sign.
1	Standardization of HR practices	3.912	3.387	.5250	2.952	.004*
2	Administrative burden reduction	3.925	3.812	.1125	.725	.470
3	Employer brand (improves)	3.750	3.687	.0625	.419	.676
4	Ready to change workforce	3.637	3.600	.0375	.253	.801
5	Competence of employee (increases)	3.737	3.637	.1000	.611	.543
6	Knowledge management (supports)	3.712	3.700	.0125	.078	.938
7	Alignment of HR practices with business strategy	4.175	3.600	.5750	3.956	.000*
8	Strategic capability (increases)	4.287	3.762	.5250	3.749	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (DF. 79, sig 5%)

Table-5.11 shows null hypothesis-C2 for strategic attributes Standardization of HR practices, Alignment of HR practices with business strategy, is rejected as the significance level is below the assumed significance level of 0.05.So for all these strategic attribute is not same for private and public organizations. Null hypothesis-C2 for strategic attribute, Administrative burden reduction, Employer brand (improves), Ready to change workforce, Competence of employee

(increases), Knowledge management (supports) is accepted as the significance level is above the assumed significance level of 0.05 hence, these attributes are same for private and public organizations. Overall null hypothesis C2 is partially rejected.

5.3.2.3 Strategic capability (Manufacturing vis-à-vis Service)-To test the hypothesis C3 (There is no significant difference in mean value of strategic attributes of e-HRM between manufacturing/mining and services organizations), paired sample t-test has been used as a statistical tool.

TABLE- 5.12: Paired Sample t-Test of Strategic Attributes (Manufacturing/ Mining vis-à-vis Service)

Pair	Attributes	Mean Mfg/ Min	Mean Service	Mean Diff.	t	Sign
1	Standardization of HR practices	3.512	3.787	-.2750	-1.697	.094
2	Administrative burden reduction	3.812	3.925	-.1125	-.773	.442
3	Employer brand (improves)	3.500	3.937	-.4375	-2.806	.006*
4	Ready to change workforce	3.462	3.775	-.3125	-2.062	.043*
5	Competence of employee (increases)	3.587	3.787	-.2000	-1.321	.190
6	Knowledge management (supports)	3.450	3.962	-.5125	-3.494	.001*
7	Alignment of HR practices with business strategy	3.837	3.937	-.1000	-.638	.525
8	Strategic capability (increases)	3.912	4.137	-.2250	-1.738	.086

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (D.F. 79, sig 5%)

Table-5.12 shows null hypothesis C3 for strategic attributes, Employer brand (improves), Ready to change workforce, Knowledge management (supports) and Strategic capability (increases) is rejected as the significance level is below the assumed significance level of 0.05, so all these strategic attributes is not same for manufacturing/mining and services sector. Null hypothesis C3 for strategic attributes, Standardization of HR practices, Competence of employee (increases),

Alignment of HR practices with business strategy, Strategic capability (increases) is accepted as significance level is above the assumed significance level of 0.05, hence these attributes are not significantly different for manufacturing/mining and services sector. Overall null hypothesis C3 is partially rejected.

5.3.2.4 Strategic Capability (Organization vis-a-vis Organization)-To test the hypothesis C4 (There is no significant difference in mean value of strategic attributes among different select Indian organizations), one way ANOVA has been used as a statistical tool.

TABLE-5.13: One way ANOVA of Strategic Attributes (Organization vis-a-vis Organization).

ATT	Mean (Organisation Wise)								Mean	F	Sig.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	TM			
SZ	2.5	4.15	3.6	4	3.8	3.65	3.3	4.1	3.63	6.43	.000*
AB	2.9	3.95	3.65	4	4	4.2	4.15	4.1	3.87	3.65	.001*
EB	2.5	3.55	4.2	4	3.7	4.25	4.05	3.55	3.72	8.19	.000*
RC	3	3.6	3.8	4.15	3.7	3.7	3.55	3.45	3.62	2.20	.037*
CT	2.8	3.75	3.8	3.95	3.7	4.15	3.6	3.7	3.68	3.33	.003*
KM	2.9	4.2	3.9	4.1	3.7	4.15	3.7	3.05	3.71	5.98	.000*
Al	2.8	4.05	4.35	3.9	4.1	4.25	3.45	4.2	3.89	6.20	.000*
SC	3.1	4.5	4.15	4.1	4.2	4.05	3.8	4.3	4.02	5.54	.000*

Source – Data Analysis by Scholar

Significance level with*- Null hypothesis rejected or else accepted (DF. 7/152, sig 5%)

Short forms used in table 5.13 and 5.14: ATT- Attribute, SZ-Standardization of HR practices, AB - Administrative burden reduction, EB- Employer brand (improves), RC- Ready to change workforce, CT- Competence of employee (increases), KM- Knowledge management (supports), Al-Alignment of HR practices with business strategy, SC-Strategic capability (increases)

Table-5.13 shows significance level of all strategic attributes of e-HRM Standardization of HR practices, Administrative burden reduction, Employer brand (improves), Ready to change workforce, Competence of employee (increases) , Knowledge management (supports), Alignment of HR practices with business strategy, Strategic capability (increases) is below the assumed significance level of 0.05 hence null hypothesis is rejected and it can be said that these strategic attributes is different in Indian organizations hence null hypothesis (H0) is C4 rejected.

5.3.2.5 Strategic Attributes Association To test the hypothesis C5 (There exist no association between strategic attributes and strategic capability), correlations analysis has been used as a statistical tool.

TABLE -5.14: Correlations Coefficient of Strategic Attributes

ATT	SZ	AB	EB	RC	CT	K M	Al	SC
SZ	1							
AB	.776 ** (0.00)	1						
EB	.596** (0.00)	.736** (0.00)	1					
RC	.569** (0.00)	.593** (0.00)	683** (0.00)	1				
CT	.632** (0.00)	.680** (0.00)	.767** (0.00)	.683** (0.00)	1			
KM	.690** (0.00)	.659** (0.00)	.684** (0.00)	.627** (0.00)	.763** (0.00)	1		
Al	.691" (0.00)	.682** (0.00)	.731** (0.00)	.604** (0.00)	.695** (0.00)	.748** (0.00)	1	
SC	.742** (0.00)	.741** (0.00)	.709** (0.00)	.590** (0.00)	.751** (0.00)	.764** (0.00)	.802** (0.00)	1

Source – Data analysis by scholar
** Statistically significant at 0.05 level (2-tailed).

Table -5.14 shows there exists a significant relationship between all the strategic attributes and strategic capability at 0.05 significant levels hence null hypothesis C5 is rejected.

5.3.2.6 Strategic attributes impact - To test the hypothesis C6 (Strategic attributes of e-HRM have no significant impact on strategic capability of Indian organizations), regression has been used as a statistical tool.

TABLE 5.15: Regression Coefficient (Dependent Variable: Strategic capability)

Attributes	Unstandardized Coefficients		t	Sig.
	B	Beta		
Constant	.808		5.255	.000*
Standardization of HR practices	.142	.171	2.456	.015*
Administrative burden reduction	.131	.151	2.040	.043*
Employer brand (improves)	.018	.020	.271	.787
Ready to change workforce	-.048	-.055	-.944	.346
Competence of employee (increases)	.181	.209	2.854	.005*
Knowledge management (supports)	.136	.154	2.161	.032*
Alignment of HR practices with business strategy	.290	.339	4.899	.000*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F. 159, sig 5%)

Table – 5.15 depicts attributes Employer brand (improves), Ready to change workforce is not statistically significant and doesn't fit in module**.** As per statistics tentative module of attributes having significant impact on strategic capability comprises of .808 (Constant) + .142 (Standardization of HR practices) + .131 (Administrative burden reduction) +.181 (Competence of employee) + .136 (Knowledge management) + .290 (Alignment of HR practices with business strategy). Constant is statistically significant as its value is 0.00 below .05. It can be said that five attributes have significant impact on strategic capability, hence null hypothesis C6 is partially rejected.

5.4 Hypothesis Formulation (Financial Contribution)- To analyze research objective no. 4, "To assess the impact of E-HRM in Indian organizations in terms of financial contribution" with the main hypothesis five more hypothesis has been formulated to analyze financial contribution attributes of e-HRM from different perspectives.

Research Hypothesis – (H0- Null, H1- Alternate)

D1) H0 There is no significant difference in present mean value of financial attributes of e-HRM and test value.

D1) H1 There is significant difference in present mean value of financial attributes of e-HRM and test value.

D2) H0 There is no significant difference in mean value of financial attributes of e-HRM between public and public organizations.

D2) H1 There is significant difference in mean value of financial attributes of e-HRM between public and private organizations.

D3) H0 There is no significant difference in mean value of financial attributes of e-HRM between manufacturing/ mining and services organizations.

.D3) H1 There is significant difference in mean value of financial attributes of e-HRM between manufacturing/mining and services organizations.

D4) H0 There is no significant difference in mean value of financial attributes among select Indian organizations.

D4) H1 There is significant difference in mean value of financial attributes among select Indian organizations.

D5) H0 There exist no association between financial attributes and financial contribution.

D5) H1 There exist association between financial attributes and financial contribution.

D6) H0 Financial attributes of e-HRM have no significant impact on financial contribution.

D6) H1 Financial attributes of e-HRM have significant impact on financial contribution.

5.4.1 Data analysis and interpretation- Beside descriptive statistics one sample t-test had been used to test the hypothesis D1. Paired Sample t Test has been used to test the hypothesis D2 and D3**.** ANOVA has been used to test the hypothesis D4. Correlations analysis has been used to test the hypothesis D5. Regression analysis has been used to test the hypothesis D6. A Cronbach's Alpha value of 0.940 shows questionnaire is reliable.

5.4.2 HYPOTHESIS TESTING

5.4.2.1 Financial Attributes Value To test the hypothesis D1 (There is no significant difference in present mean value of financial attributes of e-HRM and test value), one sample t- test has been used applying a hypothesized test mean value of 3.5, assuming that a mean value of 3.5 will support the null hypothesis D1.

TABLE- 5.16: One-Sample t-Test of Financial Attributes

Attributes	**Test Value = 3.5 Degree of freedom = 159**		
	Mean	**t**	**Sig. (2-tailed)**
Head count reduction (HR)	3.656	1.827	.070
Outsourcing cost reduction (HR)	3.975	6.547	.000*

Attributes	Test Value = 3.5 Degree of freedom = 159		
	Mean	t	Sig. (2-tailed)
Stationery material cost reduction	3.719	2.773	.006*
Administrative & operational cost reduction	3.819	3.857	.000*
Output of HR function (increases)	3.887	5.116	.000*
Improvement saving (quality)	3.781	4.694	.000*
Duplication of work (reduction)	4.012	6.959	.000*
Cycle time of HR function (reduction)	4.006	6.444	.000*
Financial contribution	4.175	11.536	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (DF 159, sig 5%)

Table-5.16 show significance level of most of the financial attributes of e-HRM is below the assumed significance level, so null hypothesis D1 is rejected. For attribute Head count reduction (HR) significance level is above the assumed significance, so null hypothesis is accepted. Overall null hypothesis D1is partially rejected.

5.4.2.2 Financial contribution (Private vis-a-vis Public)-To test the hypothesis D2 (There is no significant difference in mean value of financial attributes of e-HRM between public and public organizations), paired sample t-test has been used as a statistical tool.

TABLE-5.17: Paired Sample t-Test of Financial Attributes (Private vis-à-vis Public)

Pair	Attributes	Mean Private	Mean Public	Mean Difference	t	Sig.

Pair	Attributes	Mean Private	Mean Public	Mean Difference	t	Sig.
1	Head count reduction (HR)	3.91	3.40	.5125	2.91	.005*
2	Outsourcing cost reduction (HR)	4.10	3.84	.2625	1.834	.070
3	Stationery material cost reduction	3.81	3.63	.1875	1.504	.136
4	Administrative & operational cost reduction	3.84	3.80	.0375	.246	.806
5	Output of HR function (increases)	4.01	3.77	.2500	1.723	.089
6	Improvement saving (quality)	3.71	3.88	-.1625	-1.473	.145
7	Duplication of work (reduces)	4.15	3.85	.3000	2.101	.039*
8	Cycle time of HR function (reduces)	4.25	3.76	.4875	3.123	.003*
9	Financial contribution	4.22	4.12	.1000	.823	.413

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted D.F. 79, sig 5%

Table-5.17 shows null hypothesis D2 for attribute Head count reduction (HR) , Duplication of work (reduces), Cycle time of HR function (reduces) is rejected as the significance level is below the assumed significance level, so these attributes are not same for private and public organizations. Null hypothesis D2 for Outsourcing cost reduction (HR), Stationery material cost reduction, Administrative & operational cost reduction, Output of HR function (increases), Improvement saving (quality), Financial contribution is accepted as the significance level is above the assumed significance level, hence, current stage of these attributes are same for private and public organizations. Overall null hypothesis D2 is partially rejected.

5.4.2.3 Financial contribution (Manufacturing/Mining vis-a-vis Services)-To test the hypothesis D3 (There is no significant difference in mean value of financial attributes of e-HRM between manufacturing/ mining and services organizations), paired sample t- test has been used as a statistical tool.

TABLE- 5.18: Paired Sample t-Test of Financial Attributes
(Manufacturing/ Mining vis-a-vis Service)

Pair	Attributes	Mean Mfg/Mining	Mean Services	Mean Difference	t	Sig.
1	Head count reduction (HR)	3.612	3.700	-.087	-.524	.602
2	Outsourcing cost reduction (HR)	4.000	3.937	.062	.449	.655
3	Stationery material cost reduction	3.737	3.700	.037	.231	.818
4	Administrative & operational cost reduction	3.787	3.850	-.062	-.356	.723
5	Output of HR function (increases)	3.712	4.062	-.350	-2.438	.017*
6	Improvement saving (quality)	3.712	3.875	-.162	-1.370	.174
7	Duplication of work (reduction)	3.850	4.150	-.300	-2.308	.024*
8	Cycle time of HR function (reduction)	3.900	4.112	-.212	-1.441	.153
9	Financial contribution	4.062	4.287	-.225	-2.080	.041*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F.79, Sig 5%)

Table-5.18 shows null hypothesis D3 for financial attributes, Output of HR function (increases), Duplication of work (reduction), and Financial contribution is rejected as the significance level is below the assumed significance level of 0.05, so current stage of these attributes is not same for manufacturing/mining and services sector. Null hypothesis-D3 for financial attributes Head count reduction (HR) , Outsourcing cost reduction (HR) , Stationery material cost reduction, Administrative & operational cost reduction, Improvement saving (quality), Cycle time of HR function (reduction) is accepted as the significance level is above the assumed significance level 0.05, hence current stage of these attributes are same for manufacturing/mining and services sector . Overall null hypothesis D3 is partially rejected

5.4.2.4 Financial contribution (Organization vis-a-vis Organization)-To test the hypothesis D4 (There is no significant difference in mean value of financial attributes among select Indian organizations), one way ANOVA has been used as a statistical tool.

TABLE- 5.19: One way ANOVA of Financial Attributes (Organization vis-a-vis Organization).

ATT	Mean (Organization Wise)								Mean	F	Sig.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	TM			
HC	2.95	4.1	3.7	4.1	3.8	3.65	2.9	4.05	3.66	4.65	0.00*
OC	3.8	4.05	3.75	3.95	4.2	3.6	4.05	4.4	3.97	1.62	.133
SM	2.8	2.95	3.95	4	4.35	3.8	3.9	4	3.72	7.76	0.00*
AO	3	3.4	3.75	4.15	4.45	3.95	4.1	3.75	3.82	4.38	0.00*
OH	2.75	4	4	4.1	4.05	4.05	4.15	4	3.89	5.61	0.00*
I S	3.7	3.75	3.85	3.75	3.7	3.9	4.05	3.55	3.78	.787	.599
DC	3.2	4.25	4.05	4.15	4.3	3.9	4.25	4	4.01	3.21	.003*
CT	2.9	4.15	4.15	4.15	4.7	4	4	4	4.01	6.30	0.00*
FC	3.6	4.35	4.15	4.35	4.4	4.25	4.3	4	4.2	2.78	.009*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (DF 7/152, sig 5%)

Short forms used in table 5.19 and 5.20**:** ATT- Attribute, HC - Head count reduction, OC - Outsourcing cost reduction (HR), SM - Stationery material cost reduction, AO- Administrative & operational cost reduction, OH- Output of HR function (increases), IS - Improvement saving (quality), DC- Duplication of work (reduction), CT- Cycle time of HR function (reduction), FC- Financial contribution

Table-5.19 shows significance level all financial attributes, HR head count reduction, Stationery material cost reduction, Administrative & operational cost reduction, Output of HR function (increases), Duplication of work (reduction), Cycle time of HR function (reduction) and Financial contribution is below the assumed significance level of 0.05 hence null hypothesis is rejected and it can be said that these financial attributes is different in Indian organizations. For

financial attributes Outsourcing cost reduction (HR) and Improvement saving (quality) significance level is above the assumed significance level of 0.05 hence, these attributes are not significantly different for Indian organizations. Overall null hypothesis D4 is partially rejected

5.4.2.5 Financial Attributes Association- To test the hypothesis D5 (There exist no association between the financial attributes and financial contribution), correlations analysis has been used as a statistical tool.

TABLE- 5.20: Correlations Coefficient of Financial Attributes.

ATT	HC	OC	SM	AO	OH	IS	DC	CT	FC
HC	1								
OC	.498** (.00)	1							
SM	.516** (.00)	.425** (.00)	1						
AO	.417** (.00)	.264** (.001)	.686* (.00)*	1					
OH	.624** (.00)	.419** (.00)	.552* (.00)*	.425** (.00)	1				
IS	.207** (.009)	.182* (.021)	.159* (.044)	.251** (.001)	.252** (.001)	1			
DC	.479** (.00)	.376** (.00)	.504** (.00)	.299** (.00)	.671** (.00)	.209** (.008)	1		
CT	.622** (.00)	.331** (.00)	.655** (.00)	.485** (.00)	.694** (.00)	.269** (.001)	.679** (.00)	1	
FC	.610**5 (.00)	.358** (.00)	.510** (.00)	.496** (.00)	.729** (.00)	.349** (.00)	.717** (.00)	.725** (.00)	1

Source – Data analysis by scholar

** Statistically significant at 0.05 level (2-tailed).

Table -5.20 shows there exist significant relationship between all the financial attributes and financial contribution at 0.05 significant levels, hence null hypothesis D5 is rejected.

5.4.2.6 Financial Attributes Impact - To test the hypothesis D6 (Financial attributes of e-HRM have no significant impact on financial contribution), regression has been used as a statistical tool.

TABLE -5.21: Regression Coefficients (Dependent Variable: Financial contribution)

Attributes	**Unstandardized Coefficients**		**t**	**Sig.**
	B	**Beta**		
(Constant)	.899		4.207	.000*
Head count reduction (HR)	.099	.144	2.306	.022*
Outsourcing cost reduction (HR)	-.015	-.019	-.353	.724
Stationery material cost reduction	-.133	-.179	-2.468	.015*
Administrative & operational cost reduction	.160	.226	3.676	.000*
Output of HR function (increases)	.182	.236	3.404	.001*
Improvement saving (quality)	.100	.103	2.230	.027*
Duplication of work (reduction)	.276	.348	5.365	.000*
Cycle time of HR function (reduction)	.165	.222	2.921	.004*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F. 159, Sig 5%)

Table – 5.21 depicts attributes "outsourcing cost" is not statistically significant and doesn't fit in module. As per statistics tentative module of attributes having impact on financial contribution comprises of .899 (Constant) + .099 (Head count reduction) **-** 133 (Stationery material cost reduction) + .160 (Administrative & operational cost reduction) + .182 (Output of HR function) +.100 (Improvement saving) + .276 (Duplication of work) + .165 (Cycle time of HR function). So it can be said that only seven attributes have significant impact on financial contribution, hence null hypothesis D6 is partially rejected. One thing is noticeable of this regression analysis is that Stationery material cost reduction attribute is showing negative coefficient.

5.5 Hypothesis Formulation (Stakeholder's Satisfaction) - To analyze research objective no. 5 , **"**To assess the impact of e-HRM in Indian organizations in terms of improvement in internal

stakeholder's satisfaction ” with the main hypothesis six more hypothesis have been formulated so that analysis could be done through different perspective and the study could provide clear picture of stake holder’s satisfaction of e-HRM from different context.

Research Hypothesis – (H0- Null Hypothesis, **H1- Alternate Hypothesis**)

E1) H0 There is no significant difference in present mean value of satisfaction attributes of e-HRM and test value.

E1) H1 There is significant difference in present mean value of satisfaction attributes of e-HRM and test value.

E2) H0 There is no significant difference in mean value of satisfaction attributes of e-HRM between private and public organizations.

E2) H1 There is significant difference in mean value of satisfaction attributes of e-HRM between private and public organizations.

E3) H0 There is no significant difference in mean value of satisfaction attributes of e-HRM between manufacturing/mining and services organizations.

E3) H1 There is significant difference in mean value of satisfaction attributes of e-HRM between manufacturing/mining and services organizations.

E4) H0 There is no significant difference in mean value of satisfaction attributes among different select Indian organizations.

E4) H1 There is significant difference in mean value of satisfaction attributes among different select Indian organizations.

E5) H0 There is no significant difference in satisfaction attributes considering employees demographics as variables.

E5) H1 There is significant difference in satisfaction attributes considering employees demographics as a variables.

E6) H0 There exist no association between all the satisfaction attributes and internal stakeholder's satisfaction.

E6) H1 There exist an association between the satisfaction attributes and internal stakeholder's satisfaction

E7) H0 Satisfaction attributes of e-HRM have no significant impact on internal stakeholder's satisfaction.

E7) H1 Satisfaction attributes e-HRM have significant impact on internal stakeholder's satisfaction.

5.5.1 Data analysis and interpretation-Beside descriptive statistics one sample t-test had been used to test the hypothesis E1. Paired Sample t-Test has been used to test the hypothesis E2 and E3**.** ANOVA has been used to test the hypothesis E4 and E5. Correlations analysis has been used to test the hypothesis E6. Regression analysis has been used to test the hypothesis E7. 0.886 value of Cronbach's Alpha confirms reliability of questionnaire.

5.5.2 HYPOTHESIS TESTING

5.5.2.1 Satisfaction attributes value- To test the hypothesis E1 (There is no significant difference in present mean value of satisfaction attributes of e-HRM and test value), one sample

t -test has been used using a hypothesized test value of 3.5 assuming that a mean value of 3.5 will support the null hypothesis E1.

TABLE- 5.22: One-Sample t-Test of Satisfaction Attributes

Attributes	**Test Value = 3.5 Degree of freedom = 399**		
	Mean	**t**	**Sig. (2-tailed)**
Easy to use	3.9850	10.479	.000*
Useful to use	4.1950	16.570	.000*
24*7 (flexibility)	3.9175	7.643	.000*
Easy to access	4.0475	11.826	.000*
Empowers personnel	3.9225	8.412	.000*
Improves transparency	4.2000	16.365	.000*
Role clarity (facilitates)	4.3450	5.742	.000*
Internal communication (improves)	3.9850	11.623	.000*
HR dependence (reduces)	3.8225	6.713	.000*
Decision support system	3.8825	8.470	.000*
Improves satisfaction (employee)	4.0150	12.297	.000*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (DF 399, Sig 5%)

According to table- 5.22 all the attributes of satisfaction has low significance values of 0.00 which is below assumed significance level of 0.05, hence null hypotheses E1 is rejected. Mean value of all the financial attributes is above the test value hence it can be concluded that e-HRM attributes of internal stakeholder's satisfaction is notably present in Indian organizations.

5.5.2.2 Stakeholder's Satisfaction (Private vis-a-vis Public)-To test the hypothesis E2 (There is no significant difference in mean value of satisfaction attributes of e-HRM between private and public organizations), paired sample t-test has been used as a statistical tool.

TABLE-5.23: Paired Sample t-Test of Satisfaction Attributes (Private vis-à-vis Public)

Pair	Attributes	Mean Private	Mean Public	Mean Diff.	t	Sig.
1	Easy to use	4.04	3.93	0.11	1.145	.254
2	Useful to use	4.185	4.205	-.02	-.231	.817
3	24*7 (flexibility)	3.895	3.94	-.045	-.413	.680
4	Easy to access	4.035	4.06	-.025	-.260	.795
5	Empowers personnel	3.885	3.96	-.075	-.746	.456
6	Improves transparency	4.095	4.305	-.21	-2.582	.011*
7	Role clarity (facilitates)	4.2	4.29	-.09	-.422	.673
8	Internal communication (improves)	3.895	4.075	-.18	-2.148	.033*
9	HR dependence (reduces)	3.845	3.8	.045	.458	.648
10	Decision support system	3.83	3.935	-.105	-1.170	.244
11	Improves satisfaction (employee)	3.955	4.075	-.12	-1.517	.131

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F 199, Sig 5%)

Table-5.23 shows null hypothesis E2 for attribute Improves transparency and Internal communication is rejected as the significance level is below the assumed significance level of 0.05.So these satisfaction attributes is not same for private and public organizations. Null hypothesis (H0) E2 for satisfaction attribute Easy to use, Useful to use, 24*7 (flexibility), Easy to access, Empowers personnel, Role clarity (Facilitates), HR dependence (Reduces), Decision support system and Improves satisfaction(employee) is accepted as the significance level is above the assumed significance level of 0.05 hence, these attributes are same for private and public organizations. Overall null hypothesis E2 is partially rejected.

5.5.2.3 Stakeholder's Satisfaction (Manufacturing/Mining vis-a-vis Service) - To test the hypothesis E3 (There is no significant difference in mean value of satisfaction attributes of e-

HRM between manufacturing/mining and service organizations), paired sample T test has been used as a statistical tool.

TABLE- 5.24: Paired Sample t-Test of Satisfaction Attributes (Manufacturing/Mining vis-à-vis Service)

Pair	Attributes	Mean Mfg/ Mining	Mean Services	Mean Diff.	t	Sig.
1	Easy to use	3.8	4.17	-.37	-4.072	.000*
2	Useful to use	4.09	4.3	-.21	-2.582	.011*
3	24*7 (flexibility)	3.83	4.005	-.175	-1.542	.125
4	Easy to access	3.89	4.205	-.315	-3.507	.001*
5	Empowers personnel	3.72	4.125	-.405	-4.009	.000*
6	Improves transparency	4.115	4.285	-.17	-1.971	.049*
7	Role clarity (facilitates)	4.31	4.18	.13	.609	.543
8	Internal communication (improves)	4.04	3.93	.11	1.357	.176
9	HR dependence (reduces)	3.835	3.81	.025	.255	.799
10	Decision support system	3.87	3.895	-.025	-.280	.780
11	Improves satisfaction (employee)	3.935	4.095	-.16	-2.048	.042*

Source – Data analysis by scholar

Significance level with*- Null hypothesis rejected or else accepted (D.F. 199, Sig 5%)

Table-5.24 shows null hypothesis(H0) E3 for attribute Easy to use, Useful to use, Easy to access, Empowers personnel and Improves transparency, Improves satisfaction (employee) is rejected as the significance level is below the assumed significance level of 0.05, so all these satisfaction attributes is not same for manufacturing/mining and services organizations. Null hypothesis E3 for satisfaction attribute 24*7 (flexibility), Role clarity(facilitates), Internal communication (improves), HR dependence (reduces), Decision support system accepted as the significance level is above the assumed significance level 0.05, hence, these attributes are same for manufacturing/mining and services sector . Overall one can infer that null hypothesis E3 partially rejected.

5.5.2.4 Stakeholder's satisfaction (Organization vis-a-vis Organization) -To test the hypothesis E4 (It is hypothesized that there is no difference in mean value of satisfaction attributes among select Indian organizations), one way ANOVA has been used as a statistical tool.

Table-5.25: One way ANOVA of Satisfaction Attributes (Organization vis-a-vis Organization).

ATT	Mean (Organization Wise)								Mean	F	Sig.
	CIL	HCL	ICICI	LIC	MB	NTPC	SBI	TM			
EU	3.9	3.86	4.3	4.12	4.36	3.3	4.4	3.64	3.985	11.06	.00*
UU	4.38	4.06	4.4	4.3	4.56	3.7	4.44	3.72	4.195	8.89	.00*
24*7	3.66	3.56	4.02	4.16	4.34	3.66	4.28	3.66	3.917	4.48	.00*
EA	3.88	3.8	4.44	4.08	4.26	3.78	4.5	3.64	4.047	6.71	.00*
EP	3.64	3.72	4.1	4.44	4.14	3.52	4.24	3.58	3.922	6.59	.00*
IT	4.14	3.92	4.4	4.4	4.26	4.26	4.42	3.8	4.2	3.87	.00*
RC	4.66	3.98	4.26	4.38	4.52	4.02	4.1	4.04	4.245	.679	.690
IC	4.18	3.7	3.92	4.38	4.22	4.02	3.72	3.74	3.985	5.13	.00*
HD	3.92	3.7	3.9	3.82	4.06	3.64	3.82	3.72	3.822	1.01	.422
DSS	3.9	3.56	3.92	4.22	4.16	3.74	3.88	3.68	3.882	3.26	.00*
IS	3.8	3.7	4.24	4.3	4.26	4.06	4.14	3.62	4.015	5.63	.00*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F 7/152, Sig 5%)

Short forms used in table 5.25: ATT- Attribute, EU- Easy to use, UU - Useful to use, 24*7-24*7 flexibility, EA- Easy to access, EP - Empowers personnel, IT- Improves transparency, RC- Role clarity (facilitates), IC- Internal communication (Improves), HD - HR Dependence (reduces) , DSS-Decision support system, IS - Improves satisfaction(employee)

Table-5.25 shows satisfaction attributes Easy to use, Useful to use, 24*7 (flexibility), Easy to access, Empowers personnel, Improves transparency , Decision support system, Internal communication (improves), Stakeholder's satisfaction (improves) is below the assumed significance level of F at 0.05 hence null hypothesis rejected, so it can be concluded that these satisfaction attributes is different in Indian organizations. For satisfaction attributes Role clarity (facilitates), HR dependence (reduces) significance level is above the assumed significance level of F at 0.05 hence, these attributes are same for select Indian organizations. Overall one can infer that null hypothesis E4 partially rejected.

5.5.2.5 Stakeholder's satisfaction (Intra Demographic variable) -To test the hypothesis E5 (There is no significant difference in satisfaction attributes considering employees demographics as variables), one way ANOVA has been used as a statistical tool.

TABLE- 5.26: One-way ANOVA of Demographic Variable-Qualification

Att#	Qual#	N	Mean	f	Sig.	Att#	Qual#	N	Mean	f	Sig#
Easy to use	10	12	3.75	5.41	.001*	Role clarity	10	12	4.42	1.18	.316
	10+2	42	3.69				10+2	42	3.93		
	Degree	176	3.87				Degree	176	4.14		
	P. G.	170	4.19				P. G.	170	4.65		
Useful to use	10	12	4.33	3.28	.021*	Internal communication	10	12	4.33	1.63	.181
	10+2	42	4.09				10+2	42	4.02		
	Degree	176	4.05				Degree	176	3.90		
	P. G.	170	4.32				P. G.	170	4.04		
24*7(flexibility)	10	12	4.41	2.25	.082	HR dependence	10	12	4.58	3.96	.008*
	10+2	42	3.59				10+2	42	3.67		
	Degree	176	3.90				Degree	176	3.73		

Att#	Qual#	N	Mean	f	Sig.	Att#	Qual#	N	Mean	f	Sig#
	P. G.	170	3.98				P. G.	170	3.91		
Easy to Access	10	12	4.42	3.16	.025*	Decision support system DSS.	10	12	4.42	2.54	.056
	10+2	42	3.64				10+2	42	3.64		
	Degree	176	4.03				Degree	176	3.92		
	P. G.	170	4.07				P. G.	170	3.86		
Empowerment	10	12	4.08	3.82	.010*	Improves satisfaction	10	12	4.25	.549	.649
	10+2	42	3.45				10+2	42	3.93		
	Degree	176	3.93				Degree	176	4.04		
	P. G.	170	4.02				P. G.	170	3.99		
Transparency	10	12	4.67	4.99	.002*	(Att# Attributes, Qual# Qualification) Significance level with*- Null hypothesis rejected or else accepted (D.F.3/ 396, sig 5%)					
	10+2	42	3.74								
	Degree	176	4.21								
	P. G.	170	4.20								

Source – Data analysis by scholar

Null hypothesis (H0) E5 is accepted for the attribute 24*7(flexibility), Role clarity (facilitates), Internal communication (improves), Decision support system (DSS) , improves satisfaction (employee) as the significance level is above 0.05, so it can be said there is no significant difference in these attributes taking qualification as a variable. Null hypothesis E5 is rejected for the attribute Easy to use, Useful to use, Easy to Access, Empowerment (personnel), Transparency (improves) and HR dependence (reduces) as the significance level is below 0.05, so there is significant difference in these attributes taking "Qualification" as demographic variable. Hence for demographic variable "Qualification" null hypothesis is partially rejected.

TABLE- 5.27: One -way ANOVA of Demographic Variable -Position

At#	Position	N	Mean	f	Sig	At#	Position	N	Mean	f	At#
Eas	Operative	120	3.87	1.45	.236	Rol	Operative	120	4.12	1.27	.281

At#	Position	N	Mean	f	Sig	At#	Position	N	Mean	f	At#
	Supervisor	120	4.02				Supervisor	120	4.18		
	Manager	160	4.05				Manager	160	4.63		
Useful to use	Operative	120	4.19	.176	.838	Communication	Operative	120	4.03	2.76	.065
	Supervisor	120	4.21				Supervisor	120	4.09		
	Manager	160	4.15				Manager	160	3.87		
24*7(flexibility)	Operative	120	3.79	1.27	.283	HR dependence	Operative	120	3.81	.470	.625
	Supervisor	120	3.93				Supervisor	120	3.89		
	Manager	160	4.00				Manager	160	3.78		
Easy to access	Operative	120	3.90	1.46	.234	DSS.	Operative	120	3.82	.353	.703
	Supervisor	120	4.10				Supervisor	120	3.90		
	Manager	160	4.04				Manager	160	3.91		
Empowerment	Operative	120	3.76	2.36	.095	Satisfaction	Operative	120	4.01	.250	.779
	Supervisor	120	4.02				Supervisor	120	4.06		
	Manager	160	3.97				Manager	160	3.99		
Transparency	Operative	120	4.13	.149	.861	(At# Attribute) Significance level with*- Null hypothesis rejected or else accepted (D.F.2/ 397, sig 5%)					
	Supervisor	120	4.18								
	Manager	160	4.19								

Source – Data analysis by scholar

Null hypothesis E5 is accepted for all the attributes of demographic variable 'Position' as significance level is above 0.05, so it can be said there is no significant difference in these

attributes taking “Position” as demographic variable. Hence for demographic variable “Position” null hypothesis is accepted.

TABLE- 5.28: One-way ANOVA of Demographic Variable -Area

Att#	Area	N	Mean	F	Sig.	Att#	Area	N	Mean	f	Sig.
Easy to use	Mkt#	57	4.53	4.88	.000*	Role clarity	Mkt#	57	4.40	2.17	.057
	HR	69	3.93				HR	69	4.33		
	IT	51	3.82				IT	51	4.00		
	Fin#	49	3.86				Fin#	49	5.57		
	Ope#	151	3.92				Ope#	151	4.05		
	Oth#	43	3.91				Oth#	43	4.21		
Useful to use	Mkt#	57	4.53	4.86	.000*	Internal communication	Mkt#	57	4.26	6.27	.000*
	HR	69	4.28				HR	69	4.26		
	IT	51	3.94				IT	51	3.67		
	Fin#	49	3.84				Fin#	49	3.65		
	Ope#	151	4.23				Ope#	151	3.99		
	Oth#	43	4.09				Oth#	43	3.91		
24*7 (flexibility)	Mkt#	57	4.02	2.17	.057	HR dependence	Mkt#	57	3.98	1.83	.107
	HR	69	4.03				HR	69	3.94		
	IT	51	3.80				IT	51	3.57		
	Fin#	49	4.14				Fin#	49	3.67		
	Ope#	151	3.70				Ope#	151	3.78		
	Oth#	43	4.14				Oth#	43	4.00		
Easy to Access	Mkt#	57	4.54	5.19	.000*	Decision support	Mkt#	57	4.07	2.70	.020*
	HR	69	3.96				HR	69	3.93		
	IT	51	3.94				IT	51	3.53		

Att#	Area	N	Mean	F	Sig.	Att#	Area	N	Mean	f	Sig.
	Fin#	49	3.98				Fin#	49	3.94		
	Ope#	151	3.82				Ope#	151	3.95		
	Oth#	43	4.14				Oth#	43	3.70		
Empowerment	Mkt#	57	4.25	2.64	.023*	Improves Satisfaction	Mkt#	57	4.19	2.92	.013*
	HR	69	4.07				HR	69	4.26		
	IT	51	3.84				IT	51	3.82		
	Fin#	49	3.67				Fin#	49	3.96		
	Ope#	151	3.80				Ope#	151	3.89		
	Oth#	43	4.00				Oth#	43	4.05		
Transparency	Mkt#	57	4.37	5.02	.000*	(Att#- Attribute Mkt# Marketing, Fin#-Finance Oper# -Production / Operation, Oth#- Others Significance level with*- Null hypothesis rejected or else accepted (D.F. 5/394, sig 5%)					
	HR	69	4.38								
	IT	51	3.96								
	Fin#	49	4.04								
	Ope#	151	3.98								
	Oth#	43	4.53								

Source – Data analysis by scholar

Null hypothesis E5 is accepted for the attribute 24*7(flexibility), Role clarity (facilitates), HR dependence (reduces), as the significance level is above 0.05, so it can be said there is no significant difference in these attributes taking "Area" as demographic variable. Null hypothesis E5 is rejected for the attribute "Easy to use" Useful to use, Easy to access, Empowerment (personnel), Transparency (improves), Decision support system (DSS), Improves Satisfaction (employee) as the significance level is below 0.05, so there is significant difference in these attributes taking "Area" as demographic variable. Hence for demographic variable "Area" null hypothesis is partially rejected.

TABLE- 5.29: One-way ANOVA of Demographic Variable –Experience

Att#	Exp#	N	Mean	f	Sig	Att#	Exp#	N	Mean	f	Sig.
Easy to use	1-5	117	3.0	1.57	.181	Role clarity	1-5	117	3.92	4.07	.003*
	5-10	61	4.02				5-10	61	4.15		
	10-15	81	4.11				10-15	81	4.02		
	15- 20	45	3.76				15- 20	45	3.84		
	> 20	96	4.07				> 20	96	4.55		
Useful to use	1-5	117	4.15	1.21	.307	Internal communication	1-5	117	3.88	3.86	.004*
	5-10	61	4.25				5-10	61	4.03		
	10-15	81	4.12				10-15	81	3.89		
	15- 20	45	4.00				15- 20	45	3.80		
	> 20	96	4.30				> 20	96	4.25		
24*7 (flexibility)	1-5	117	4.01	8.21	.000*	HR dependence	1-5	117	3.91	1.16	.326
	5-10	61	3.46				5-10	61	3.75		
	10-15	81	4.05				10-15	81	3.67		
	15- 20	45	3.40				15- 20	45	3.76		
	> 20	96	4.23				> 20	96	3.92		
Easy to Access	1-5	117	3.90	4.66	.001*	Decision support system (DSS)	1-5	117	3.73	2.06	.085
	5-10	61	4.08				5-10	61	3.92		
	10-15	81	3.96				10-15	81	3.84		
	15- 20	45	3.69				15- 20	45	3.87		
	> 20	96	4.32				> 20	96	4.08		
Empowerment	1-5	117	3.76	3.20	.013*	Improves satisfaction	1-5	117	3.91	2.467	.044*
	5-10	61	4.11				5-10	61	4.11		
	10-15	81	3.90				10-15	81	3.89		
	15- 20	45	3.67				15- 20	45	3.96		

Att#	Exp#	N	Mean	f	Sig	Att#	Exp#	N	Mean	f	Sig.
	> 20	96	4.14				> 20	96	4.21		
Transparency	1-5	117	3.98	4.97	.001*	(Att#-Attribute Exp# Experience) Significance level with*- Null hypothesis rejected or else accepted (D.F. 4/396, sig 5%)					
	5-10	61	4.21								
	10-15	81	4.19								
	15- 20	45	3.93								
	> 20	96	4.46								

Source – Data analysis by scholar

Null hypothesis E5 is accepted for the attribute Easy to use, Useful to use, HR dependence (reduces), Decision support system (DSS), as the significance level is above 0.05, so it can be said there is no significant difference in these attributes taking "Experience" as demographic variable. Null hypothesis E5 is rejected for the attribute 24*7(flexibility), Easy to Access, Empowerment (personnel), Transparency (improves), Role clarity (facilitates), Internal communication (improves), Improves satisfaction (stakeholder's) as the significance level is below 0.05, So there is significant difference in these attributes. Hence for demographic variable "Experience" null hypothesis E5 is partially rejected

TABLE- 5.30: One-way ANOVA of Demographic Variable -Gender

Att#	Gen#	No.	Mean	f	Sig.	Att#	Gen#	No.	Mean	f	Sig
Easy to use	M	334	3.94	4.80	.029*	Role clarity	M	334	4.44	1.99	.159
	F	66	4.21				F	66	3.88		
Useful to use	M	334	4.19	.377	.540	Internal	M	334	4.01	1.67	.196
	F	66	4.12				F	66	3.86		
24*7	M	334	3.91	.180	.672	HR	M	334	3.84	.360	.549
	F	66	3.97				F	66	3.76		
Easy to Access	M	334	4.01	.069	.793	DSS	M	334	3.90	.867	.352
	F	66	4.05				F	66	3.79		
Empowers	M	334	3.93	.271	.603	Improves Satisfaction	M	334	4.03	.928	.336
	F	66	3.86				F	66	3.92		
Transparency	M	334	4.16	.074	.785	(Att#- Attribute, Gen#- Gender) Significance level with*- Null hypothesis rejected or else accepted (D.F. 1/398, sig 5%)					
	F	66	4.20								

Source – Data analysis by scholar

Null hypothesis E5 is accepted for the attribute Useful to use, 24*7(flexibility), Easy to access, Empowerment (personnel), Transparency (improves), Role clarity (facilitates), Internal communication (improves), HR dependence (reduces), DSS (Decision support system) and Improves satisfaction ((employee) as the significance level is above 0.05, so it can be said there is no significant difference in these attributes taking "Gender" as demographic variable. Null hypothesis E5 is rejected for the attribute "Easy to use" as the significance level is below

0.05, so there is significant difference. Hence for demographic variable "Gender" null hypothesis E5 is partially rejected.

TABLE- 5.31: One-way ANOVA of Demographic Variable -Age

Att#	Age	N	Mean	F	Sig	Att#	Age	N	Mean	F	Sig.
Easy to use	20-30	133	3.90	2.184	.089	Role clarity	20-30	133	4.02	4.90	.002*
	30-40	139	4.06				30-40	139	4.05		
	40-50	63	4.16				40-50	63	3.59		
	50-60	65	3.82				50-60	65	4.43		
Useful to use	20-30	133	4.16	2.397	.068	Communication	20-30	133	3.81	3.60	.014*
	30-40	139	4.20				30-40	139	4.03		
	40-50	63	4.38				40-50	63	4.03		
	50-60	65	3.98				50-60	65	4.20		
24*7 (flexibility)	20-30	133	3.98	3.723	.012*	HR Dependence	20-30	133	3.77	1.08	.356
	30-40	139	3.68				30-40	139	3.91		
	40-50	63	4.06				40-50	63	3.87		
	50-60	65	4.15				50-60	65	3.68		
Easy to access	20-30	133	3.92	2.188	.089	DSS	20-30	133	3.80	1.33	.264
	30-40	139	4.01				30-40	139	3.91		
	40-50	63	3.95				40-50	63	4.06		
	50-60	65	4.28				50-60	65	3.82		
Empowerment	20-30	133	3.83	.894	.444	Improves Satisfaction	20-30	133	4.01	1.95	.120
	30-40	139	3.92				30-40	139	3.91		
	40-50	63	3.98				40-50	63	4.21		

Att#	Age	N	Mean	F	Sig	Att#	Age	N	Mean	F	Sig.
	50-60	65	4.06				50-60	65	4.06		
Transparency	20-30	133	4.11	4.84	.003*	(Att#- Attribute) Significance level with*- Null hypothesis rejected or else accepted. (D.F.3/ 396, sig 5%)					
	30-40	139	4.03								
	40-50	63	4.25								
	50-60	65	4.51								

Source – Data analysis by scholar

Null hypothesis E5 is accepted for the attribute Easy to use, Useful to use, Easy to access, Empowerment (personnel), HR dependence (reduces), DSS (Decision support system), Improves satisfaction (employee) as the significance level is above 0.05, so it can be said there is no significant difference in these attributes taking "Age" as demographic variable. Null hypothesis (H0) E5 is rejected for the attribute 24*7 (flexibility), Transparency (improves), Role clarity (facilitates), Internal communication (improves), as the significance level is below .05, so there is significant difference. Hence for demographic variable "Age" null hypothesis E5 is partially rejected

5.5.2.6 Satisfaction attributes association To test the hypothesis E6 (There exist no association between financial attributes and financial contribution), correlation has been used as a statistical tool.

TABLE- 5.32: Correlations Coefficient of Satisfaction Attributes

ATT	EU	UU	24*7	EA	EP	IT	RC	IC	RH	DSS	IS

ATT	EU	UU	24*7	EA	EP	IT	RC	IC	RH	DSS	IS
EU	1										
UU	.67** (.00)	1									
24*7	.35** (.00)	.34** (.00)	1								
EA	.53** (.00)	.48** (.00)	.45** (.00)	1							
EP	.58** (.00)	.54** (.00)	.53** (.00)	.55** (.00)	1						
IT	.41** (.00)	.29** (.00)	.44** (.00)	.53** (.00)	.58** (.00)	1					
RC	.17** (.00)	.13** (.009)	.17** (.001)	.21** (.00)	.22** (.00)	.28** (.00)	1				
IC	.40** (.00)	.37** (.00)	.28** (.00)	.39* (.00)*	.46** (.00)	.45** (.00)	.21** (.00)	1			
HD	.36** (.00)	.48** (.00)	.27** (.00)	.29**	.43** (.00)	.34** (.00)	.15** (.002)	.45** (.00)	1		
DSS	.25** (.00)	.26** (.00)	.33** (.00)	.26** (.00)	.32** (.00)	.26** (.00)	.16** (.002)	.38** (.00)	.47** (.00)	1	
IS	.41** (.00)	.47** (.00)	.46** (.00)	.42** (.00)	.59** (.00)	.47** (.00)	.20** (.00)	.49** (.00)	.61** (.00)	.57** (.00)	1

Source – Data analysis by scholar

** Statistically significant at 0.05 level (2-tailed).

Short forms used in table 5.32**:** ATT- Attribute, EU- Easy to use, UU - Useful to use, 24*7-24*7 flexibility, EA- Easy to access, EP - Empowers personnel, IT- Improves transparency, RC- Role clarity (facilitates), IC- Internal communication (improves), HD- HR Dependence (Reduces) , DSS-Decision support system, IS- Improves stakeholder's satisfaction.

Table -5.32 shows there exists a significant relationship between all the satisfaction attributes and internal stakeholder satisfaction at 0.05 significant level, hence null hypothesis E6 is rejected.

5.5.2.7 Satisfaction attributes impact - To test the hypothesis E7 (Satisfaction attributes of e-HRM have no significant impact on internal stakeholder's satisfaction), regression has been used as a statistical tool.

TABLE -5.33: Regression Coefficient
(Dependent Variable: Internal Stakeholder's Satisfaction)

Attributes	**Unstandardized Coefficients**		**t**	**Sig.**
	B	Beta		
Constant	.168		.912	.362
Easy to use	-.048	-.053	-1.113	.266
Useful to use	.100	.100	2.097	.037*
24*7 (flexibility)	.079	.103	2.617	.009*
Easy to access	-.003	-.003	-.074	.941
Empowers personnel	.188	.225	4.654	.000*
Improves transparency	.092	.094	2.158	.032*
Role clarity (facilitates)	.001	.002	.055	.956
Internal communication (improves)	.082	.081	2.052	.041*
HR dependence (reduces)	.220	.252	6.094	.000*
Decision support system	.264	.285	7.549	.000*

Source – Data analysis by scholar
Significance level with*- Null hypothesis rejected or else accepted (D.F. 399, sig 5%)

Table – 5.33 depicts attributes Easy to use, Easy to access; Role clarity is not statistically significant and doesn't fit in module. As per statistics tentative module of attributes having significant impact on internal stakeholder's satisfaction comprise of 0.168 (Constant) + 0.100 (Useful to use) +0.079 (24*7-flexibility) +0.188 (Empowers personnel) +0.092 ((Improves transparency) +0.082 (Internal communication) +0.220 (HR dependence) + 0.264 (Decision support system), so It can be said that seven attributes have significant impact on internal stakeholder's (i.e. employee) satisfaction, hence null hypothesis E7 is partially rejected.

Table- 5.34: Summary of Hypothesis

No	Hypothesis	Decision
A1	There is no significant difference in mean value of present level of e-HRM and test value.	Partially Rejected
A2	There is no significant difference in mean value of level of e-HRM between private and public organizations.	Partially Rejected
A3	There is no significant difference in mean value of level of e-HRM between manufacturing/mining and services organizations.	Partially Rejected
A4	There is no significant difference in mean value of level of e-HRM among select Indian organizations.	Rejected
B1	.There is no significant difference in present mean value of application of different e-HRM tools and test value.	Partially Rejected
B2	There is no significant difference in present mean value of application of e-HRM tools between private and public organizations.	Partially Rejected
B3	There is no difference in present mean value of application of e-HRM tools between manufacturing/mining and services organizations.	Partially Rejected
B4	There is no significant difference in present mean value of application of e-HRM tools among select Indian organizations.	Rejected
C1	There is no significant difference in present mean value of strategic attributes of e-HRM and test value.	Partially Rejected
C2	There is no significant difference in mean value of strategic attributes of e-HRM between private and public organizations.	Partially Rejected
C3	There is no significant difference in mean value of strategic attributes of e-HRM between manufacturing/mining and service organizations.	Partially Rejected
C4	There is no significant difference in mean value of strategic attributes among different select Indian organizations.	Rejected
C5	There exist no association between strategic attributes and strategic capability among different select Indian organizations.	Rejected
C6	Strategic attributes of e-HRM have no significant impact on strategic capability of select Indian organizations.	Partially Rejected
D1	There is no significant difference in present mean value of financial	Rejected

No	Hypothesis	Decision
	attributes of e-HRM and test value.	
D2	There is no significant difference in mean value of financial attributes of e-HRM between private and public organizations.	Partially Rejected
D3	There is no significant difference in mean value of financial attributes of e-HRM between manufacturing/mining and service organizations.	Partially Rejected
D4	There is no significant difference in mean value of financial attributes among select Indian organizations.	Partially Rejected
D5	There exist no association between financial attributes and financial contribution.	Rejected
D6	Financial attributes of e-HRM have no significant impact on financial contribution.	Partially Rejected
E1	There is no significant difference in present mean value of satisfaction attributes of e-HRM and test value.	Rejected
E2	There is no significant difference in mean value of satisfaction attributes of e-HRM between private and public organizations.	Partially Rejected
E3	There is no significant difference in mean value of satisfaction attributes of e-HRM between manufacturing/mining and service organizations.	Partially Rejected
E4	There is no significant difference in mean value of satisfaction attributes among select Indian organizations.	Partially Rejected
E5	There is no significant difference in satisfaction attributes considering employees demographics as variables.	Partially Rejected
E6	There exist no association between all the satisfaction attributes and internal stakeholder's satisfaction.	Rejected
E7	Satisfaction attributes of e-HRM have no significant impact on internal stakeholder's satisfaction of select Indian organizations.	Partially Rejected

Source – Compiled by scholar

CHAPTER- 6

CONCLUSIONS AND RECOMMENDATIONS

From literature review there is unanimity among the researcher regarding level of e-HRM as operational, relational and transformational, as originally conceived by Lepak and Snell way back in 1998. There were differences in nomenclature and some minor issues but broadly a consensus has been found till now. Literature supports that in most the organizations application of e-HRM is confined to operational and relational HRM function and there is hardly any evidence of application of e-HRM for transformational HR function. With strategic delivery approach of e-HRM, HR function devotes comparatively less time on transactional HR activities and more time on transformational or highest level activities. With this approach HR function some time reengineer their operations , opt for outsourcing, and traverse on digital platform and in most cases applies all the three alternatives concurrently. It is obvious with self service, more employees can be served and number of employees served increases drastically when self service and shared service both introduced as service delivery instrument.

It has been found that predicting contribution of e-HRM financially is very difficult as implementation and operation of e-HRM is not a exclusive activity and it is a part of business solution so very difficult to bifurcate among different functions of organizations. Review of literature indicates that use of e-HRM by the targeted employee is highly determined by level of usefulness to HR information technology rather than easiness to use. It has been revealed that e-learning in the field of ongoing education, employee-self-service (ESS) and manager self service (MSS) administration of HR function and the deployment of the intranet and extranet in the field of recruitment being the main fields of e-HRM that are facilitated by the e-HRM. The best contribution of E-HRM has been found in knowledge management as it facilitates compilation and dissemination of explicit and implicit knowledge very effectively and efficiently. Preparing change ready workforce is hard nut to crack, but e-HRM has been a harbinger of change management.

Present study has provided conclusions for rational explanation of inferences derived from statistical data interpretation and recommendations to facilitate fundamental solutions of the problems which have been recognized during the research and has provided outlook to confer implication of the outcome outside what they imply statistically. Recommendations deduce the result and specify what can be realized out of it. Conclusions and recommendations have been provided sector specific (manufacturing/mining – services) type of ownership specific (public - private). Sometime problems are organization specific hence organization specific recommendations and in some case recommendations are for Indian organizations as a whole

6.1 Conclusions and Recommendations of e-HRM level

From exploratory factor analysis three factors has been extracted out of 21 original variables. These three extracted factors widely discussed in the literature comprise of operational, relational, and transformational. Face-to-face HR services, has been omitted as it does not fit in any factor, so out of 21 original variables 20 have been retained.

Attaining different e-HRM level is not actually sequential phenomenon. Different levels of e-HRM implementation are not a mutually exclusive activity but some time at the same time two or more levels are being implemented simultaneously. In the way sometime higher levels achieved and lower level still to be achieved completely. By examining the data, and testing the hypothesis it can be concluded that e-HRM at operational but e-HRM is not at relational level and transformational level for all the attributes. In other words it can be said that e-HRM is partially at relational level and transformational level in Indian organization. In this case Indian organisation has not followed the hierarchy of e-HRM implementation rather than relational and transformational level has been implemented simultaneously.

Indian organisation has to work on “Traditional HR function” attribute of relational e-HRM and “Job design” attribute of transformational e-HRM. The result shows these two attributes is below the test value, so it can be said that level of Traditional and Job design activities is less on electronic platform in Indian organizations.

Research statistics shows that for private and public organizations mean value of level of e-HRM operational attribute "Publishing of HR information", "Web presence of HR function", and for relational attribute "Human resource planning", "Selection", "Training & development", "Traditional HR function" is different. For rest of operational attribute "Administration", "Time & labour management", "Transactional HR function" and for relational attribute "Recruitment", "Performance appraisal", "Reward & compensation", "Pen & paper" and "Automation of HR transactions" mean value are same. Statistics shows that there are significant differences in mean values for all attributes of transformational e-HRM. Mean value of attributes for private organizations are more than the public organizations for attributes having significant difference.

Research statistics shows that for manufacturing/mining and services organizations mean values of all the attributes of operational e-HRM "Administration", "Automation of HR transactions", "Time and labour management", "Publishing of HR information" , "Web presence of HR function', "Transactional HR function", are same. For relational e-HRM attributes "Human resource planning", "Pen and paper", "Automation of HR transactions", "Traditional HR function" and for transformational e-HRM attributes "Job design" , "Integrated set of web based tools" and "Mutation of HR transaction" are same. For relational e-HRM attributes "Recruitment", "Selection", "Training development", "Performance appraisal", "Reward & Compensation" and for transformational e-HRM "Electronically", "Strategic HR task" and "Centre of expertise" there are significant differences in mean values. Mean values of attributes for services sector are more than the manufacturing/mining for attributes having significant difference.

Public sector organizations and manufacturing /mining organizations must learn lessons from their counterpart private sector organizations and service sector organizations, and should take a cue and harness the benefit of e-HRM and be competitive. Similarly Private organization and services sector should strive to raise their level.

Research statistics shows that there is difference in mean values for all the attributes of operational relational and transformational e-HRM among Indian organization, so it can be said depth and penetration of e-HRM is not uniform in Indian organizations. Further it is obvious from the study that CIL is laggard as mean value of most of the attributes is lowest when compared to other

organizations. CIL and its subsidiaries (BCCL, WCL and others) has a huge workforce, not qualified and technology savvy, so the application of ICT for providing HR services is limited and confined to few select, those who are higher in the hierarchy. There has been minimal penetration of computers for blue collar workers of CIL and its subsidiaries hence most of the HR activity performed manually and digitization has been limited to operational and publishing of information only. ESS, automation, integration of HR, mutation of entries, concept of paperless office and many more… is lacking.

E-HRM should actually be a calculated step by Indian organizations to advance in digital era, by liberating itself from routine transactional, repetitive operations and ascending to newer levels like relational and to highest level, transformational by making it more in tune with business needs of the organization. For successful implementation of e-HRM, organizations must pay attention to culture of HR department, mechanism and service delivery of HR process, technology adopted, jobs and accountability of employees delivering personnel services, developmental needs, competencies of the work force. For making it successful HR professional has to support the system at every step. To make whole concept of e-HRM successful, thought and service delivery, conduct of human resource executive, functional heads and staff necessarily be compatible and as per requirement.

6.2 Conclusions and Recommendations of e-HRM Tools

Statistical interpretation elaborates that most of electronic human resource instruments like, HR Intranet Application (HRIA), Self Service Application (SSA), Integrated HRM Suite Application (ISA) and are in extensive use in Indian organizations. HR Portal Application (HRPA) has limited use and application of Interactive Voice Response (IVR), HR Extranet Application (HREA), HR Functional Application (HRFA), is minimal. It is quite obvious that most of Indian organizations are using Integrated HRM Suite Application (ISA) hence HR Functional Application (HRFA) is less in use.

From analysis it is quite obvious application of most of e-HRM instruments like Interactive Voice Response (IVR), HR Intranet Application (HRIA), Self Service Application (SSA), HR Extranet Application (HREA), HR Portal Application (HRPA), and Integrated HRM Suite Application (ISA) are significantly different for private and public organizations. Mean values indicate private

organizations are ahead in application of e-HRM tools to public organizations, but in case application of HR Functional Application (HRFA) there is no significant difference or we can say that application of HR Functional Application (HRFA) is same for public and private organizations.

In the same way research has found that application of some of e-HRM instruments like HR Intranet Application (HRIA), HR Extranet Application (HREA), HR Functional Application (HRFA), Integrated HRM Suite Application (ISA), are significantly different for manufacturing/mining and services. But in case application of Interactive Voice Response (IVR), Self Service Application (SSA) and HR Portal Application (HRPA) there is no significant difference or we can say that application of these instruments is same for manufacturing/mining and services organizations. Mean value shows for most of the tools with significant difference, service sector are ahead. In case of HR Extranet Application (HREA), manufacturing sector is ahead by providing a link to employee for accessing third party services.

Research statistics shows that there is difference in application of e-HRM tools, so it can be said depth and penetration of e-HRM tools are not uniform in Indian organizations. Further it is obvious from the study that CIL is laggard as mean value of most of the tools is lowest when compared to other organizations.

It is obvious that applications of e-HRM instruments are at different stage of growth and all the instruments are not fully utilized. To gain maximum benefit out of the e-HRM instruments organization must inculcate instruments relevant to them and simultaneously provide awareness and training to those employees who are either digitally illiterate or skeptical of using these instruments. In some organizations at corporate level, these instruments are functional but at unit level its application is limited. In similar manner application of these instruments are limited to certain level of employee or those who are higher in the hierarchy and there is dearth of trickledown effect. It is evident from the fact that public sector organizations are laggards in application of different e-HRM instruments compared to private sector organizations and these organizations are supposed to take more initiative to harness the benefit of e-HRM. HR personnel must create awareness and if possible conduct workshop and seminar for staff and line manager to make it successful. The biggest

motivation for employees to use e-HRM instruments is to provide a link to choose and track their career path.

These recommendations are more relevant to labor intensive organization like CIL where lots of e-HRM tools are still not functional and concept of HR self service, automation and mutation of transactions are distant dream. The demographic structures of the employee are also not in favor of e-HRM implementation. HR professionals, line managers and top management have to work hard and have take it as a mission, moreover after 4-5 years almost all the employee will retire who joined CIL at the time of nationalization. Computer literacy can be imparted to only those workforce who are literate and it has been seen that lot of workforce are illiterate or less educated who joined CIL at the time of nationalization. So after retirement of the entire workforce who joined at the time of nationalization it would be easy to implement e-HRM.

6.3 Conclusions and Recommendations of Strategic Capability

Result shows that present mean value of strategic attributes "Administrative burden reduction", "Employer brand", "Competence management", "Knowledge management", "Alignment of HR practices", "Strategic capability" is significantly high but mean value of strategic attributes, "Standardization of HR practices", and "Ready to change workforce" is not significantly different to mean test value, hence it becomes evident that e-HRM had not been able to standardizes HR practices and even not capable to prepare ready to change work force in Indian context. As these two attribute are important, so Indian organizations should make changes in their approach, system, and hardware and software so these two could be inculcated and could provide maximum benefit to the Indian organizations.

It is obvious from the study that level of e-HRM strategic attributes is not significantly different in public and private organizations except for the attributes "Standardization of HR practices", "Alignment of HR practices with business strategy"and "Strategic capability". Mean values with significant difference indicate private organizations are ahead of public organization for strategic attributes "Standardization of HR practices", "Alignment of HR practices with business strategy" and "Strategic capability".

Similarly the level of e-HRM strategic attributes is not significantly different in manufacturing/mining and services organizations except for the attributes “Employer brand”, “Ready to change workforce”, “Knowledge management” and “Strategic capability”. Mean values with significant difference are high in service sector than manufacturing/ mining sector.

Research statistics shows that there exit organization wise differences in mean values of strategic attributes, so it can be said that presence of strategic attributes are not uniform in Indian organizations. It is evident from research statistics there exist an association between all the strategic attributes and strategic capability.

Result indicate five attributes or independent variables “Standardization of HR practices”, “Administrative burden reduction”, “Competence of employee”, “Knowledge management”, “Alignment of HR practices with business strategy” fits in regression model and shows a significant cause and effect relationship but independent variables like “Employer brand”, “Ready to change workforce, had been omitted. “Employer brand”, “Ready to change workforce” were not good predictors for dependent variable strategic capability. Out of seven parameters five have significant impact on strategic capability.

HR function cannot become strategic just by digitization of HR function but it has to be reengineered and aligned with strategies of the organization, then skillful application of information technology can pay dividends. HR Professionals has to take note of this aspect of HR function. The hallmark of e-HRM decentralization, harmonization and standardization should be taken into account while developing e-HRM architecture. Culture and language can be an impediment for multinational company.

E- HRM is seen as an important source of strategic capability building. E- HRM is supposed to shift focus of HR function from employee welfare to strategic contributor by reorienting human capital, social capital, organizational capital, intellectual capital and be facilitator of knowledge management, and at the end provider of competitive edge to the organization. Now the responsibility lies with the implementer of e-HRM to make it capable in providing strategic edge, otherwise it will become just a management fad. E-HRM tools, mechanism, system, process should be so designed

that it should be compatible with the hardware and software of the organization. There must be change in approach of the end users and e-HRM must be treated as a competence of the organization.

6.4 Conclusions and Recommendations of Financial Contribution

Result shows that present level of financial attributes is above test value; hence it becomes evident that all the financial attributes are present in Indian organizations. Study reveals that level of financial attributes is not significantly different in public and private organizations except for the attributes "HR professional head count reduction", "Duplication of work", "Cycle time of HR function". Mean values indicate private organizations are ahead of public organization for financial attributes having significant difference. Similarly the level of e-HRM attributes is not significantly different in manufacturing/mining and services organizations except for the attributes "Output of HR function", "Duplication of work" and "Financial contribution". Mean value of financial attributes is more in services sector than manufacturing/mining sector with attributes having significant difference.

Research statistics shows that organization wise mean values of financial attributes is significantly different, so it can be said that presence of financial attributes are not uniform in Indian organizations. Further it is obvious from the study that CIL is laggard as mean value is almost at lowest for all the financial attributes when compared to other organizations. It is evident there is a significant association between all the financial attributes and financial contribution.

Result indicate seven attributes or independent variables (HR Head count reduction, Administrative & operational cost reduction, Increased output of HR, Quality improvement, Duplication of work, Cycle time of HR function) fits in regression model and shows a significant cause and effect relationship but independent variables like "Outsourcing cost" was omitted. Outsourcing cost was not good predictor for dependent variable financial contribution. It is obvious that each attribute has not same impact. Out of eight parameters seven have significant impact on financial contribution. Out of seven attributes having significant impact on financial contribution "Stationery material cost reduction" is showing a negative coefficient, reflecting cost of other

stationery and computer peripherals like **cartage**, CD, pen drive and A-4 paper are more than the traditional pen and paper.

It is recommended to architects of e-HRM, while formulating the framework of e-HRM and developing hardware and software due attention should be given to the attributes of financial contributions and every effort should be made to make HR function efficient without compromising its effectiveness. Some time due to faulty selection of software, hardware and lack of training to end user doesn't provide the required result and only aggravates the situation. Organizations should also measure the investment cost, return on investment, payback period but in most of cases it is difficult as digitization of HRM function is not a standalone activity and it's very difficult to measure the return in quantitative term or rupees term. Organizations should take periodic review and feedback from end users and incorporate the suggestions in the system.

Literature review reveals HR outsourcing industry in India is not in healthy stage because authorities and business are unable to resolve matters of data safety and confidentiality. The Indian government should draft a data protection law so that these issues can be resolved.

6.5 Conclusions and Recommendations of Stakeholder's Satisfaction

Result shows that present mean value of satisfaction attributes is above test value; hence, it becomes evident that in electronic form of HRM all the characteristics or attributes are present in Indian organizations. Literature review shows that technology acceptance model into electronic human resource management studies has resulted in impression that the utilization of electronic human resource management by the workforce is highly decided by level of utility of e-HRM than easiness to use.

This research reveals that level of electronic human resource management attributes of satisfaction is not significantly different in public and private organizations except for the attributes "Improves transparency", "Internal communication". Mean value of satisfaction attributes for "Improves transparency"," Internal communication" is more in public sector than private sector. Similarly the level of e-HRM attributes of satisfaction is not significantly different in manufacturing/mining and

services organizations except for the attributes “Easy to use”, “Useful to use”, “Easy to access”, “Empowers personnel” and “Improves transparency”, “Improves satisfaction”. Mean value of satisfaction attributes is more in services sector than manufacturing/mining sector.

Research statistics shows that for satisfaction attributes “Role clarity”, “Reduces HR dependence”, there is no difference among Indian organizations but for rest of attributes there is difference in mean values, so it can be said that presence of satisfaction attributes uniform for few but for most of attributes there is no uniformity.

In case of demographic variable “Qualification” there is significant difference for attribute “Easy to use”, “Useful to use”, “Easy to Access”, “Empowerment of personnel”, “Improves transparency” and “Reduces HR dependence”. It is obvious higher the education level easier to use e-HRM but for the employee those who are less educated/ IT illiterate, may be less comfortable in using e-HRM. Proper training and awareness programme should be conducted specially for less IT literate employee. In case of demographic variable “Position” there is no significant difference in attributes. It shows e-HRM is more universal and uniform there is hardly any issue of position. In case of demographic variable “Area” there is no difference in attribute “24*7 (flexibility)”, “Role clarity and “Reduces HR dependence” and for rest there is significant difference. Two main functional areas responsible for implementing e-HRM are information technology and human resource management. For these two areas and other areas there is always chance of having difference in perception.

In case of demographic variable “Experience” there is significant difference for attribute “24*7(flexibility)”, “Easy to Access”, “Empowerment of personnel”, “Improves transparency”, “Role clarity”, “Internal communication”, “Stakeholders satisfaction”. In case of demographic variable “Gender” there is significant difference for the attribute “Easy to use” for rest of the attribute there no difference between male and female. Finding shows female employee is more comfortable with e-HRM as female are mostly employed in services sector and supposed to be more knowledgeable. In case of demographic variable “Age” there is significant difference for the attribute “24*7 (flexibility)”, “Empowerment of personnel”, “Improves transparency”, “Role clarity”, Internal communication, for rest of the attribute there no difference due to age. Research

statistics shows there exist a significant relationship between all the satisfaction attributes and internal stakeholder satisfaction.

After analysis only seven attribute or independent variables "Useful to use", "24*7 flexibility", "Empowers personnel", "Improves transparency" "Internal communication", "Reduces dependence", "Decision support system" fits in regression model and shows a significant cause and effect relationship but independent variables like "Easy to use", "Easy to access" and "Role clarity" were omitted as per regression analysis. These variables were not good predictor for dependent variable "improves stakeholder's satisfaction" It is obvious that each attribute of e-HRM have not same impact.

As only seven attributes have significant impact on internal stakeholder's satisfaction, therefore it is recommended to architects of e-HRM, while formulating the framework of e-HRM and developing content, process and mechanism these attributes should not only be inculcated but also there should be some special provisions to enhance presence of these attributes. Independent variable which has been omitted in the model may be due to some lacunae in delivery which has got to be verified and accordingly corrected. Some time due to faulty selection of software, hardware and lack of training to end user only aggravates the situation. Organizations should take periodic review and feedback from end user and incorporate the suggestions in the system.

Assurance of safety and secrecy of entered facts and figures are of great concern for the workforce. If employees and line managers are skeptical of the security of data and not comfortable, hesitant to share personal data, in that case it is duty of the top management to ensure that there will no misuses of data, so concerned parties feel secure. In few cases there is lot of information on HR intranet or information overkill. Sometime employees get confused and have to spend lot of time on web-based HR tools. They are unable to differentiate between do's and don'ts. There must be some mechanism to ensure only relevant information get posted. Call center or IVR assistance must be provided to ensure doubts get cleared.

CHAPTER-7

IMPLICATIONS, LIMITATIONS, AND SCOPE OF FURTHER STUDY

This study has provided findings that have managerial implications on service provided by HR professionals, their own future, and the way new innovations will have impact on service delivery, process and mechanism of human resource department. Managerial implications are also significant for line managers and those who avail human resource services. The managerial implication offers platform and creates environment for future research. Cost constrains, time constrains, constrain due to nature of research undertaken, imposes limitations on the study which has been mentioned.

7.1 Managerial implications

* E-HRM has significant impact on internal stakeholder satisfaction and there is always chance of further increase in availing e- HRM services in digital platform and organization may further dehumanize the HR function and there will sea change in thinking of line managers regarding HR function. Line managers some time may be happy for having first hand information and some time may complain of extra burden.

* HR function is likely to be more process, IT oriented and lacking human touch, posing a big challenge for HR as a function. HR managers will show more willingness in acquiring hard IT skill rather than gaining soft man management skill.

* Sometime to safeguard interest and presence, HR managers may put hindrance in digitization of HRM function. Further all the HR issues cannot be mechanized and has to be resolved with case to case basis where HR managers have to take a leaf out of their cap and look beyond electronic solutions.

* Application of e-HRM will provide equal employment opportunity to external as well as internal stakeholder as recruitment information will shared by all and HR professionals will be free from the allegation of partiality and nepotism.

* With improved transparency and empowerment, the role of HR as middleman has reduced, sometime sense of insecurity and neglect may crop up in the mind of HR professionals. HR professionals have to accept the fact and have to work for higher order needs of the organization.

* Globalization cannot succeed unless companies adopt a global business strategy. This is possible only when companies are technology savvy and their HR department capable to sail in IT enabled superhighway and can support a globalized workforce. The rapid expansion of IT such as LAN, MAN,WAN, corporate intranets, portal, e-mail, videoconferencing, social networking sites are the hallmark of lean and mean flat networked company. If an organization want to be global then there HR function must have the support of technology, i.e. tools of e-HRM must be included while delivering the services.

* A lot of discussion has been made related to digitization of HR function leading to dehumanization of HR function. Almost all the services being delivered on digital platform, HR function is more IT centric rather than people centric, hence putting a limitation on HR executive's role. Now they may be supposed to play secondary role and be facilitator of IT function in delivering HR services. In some cases at the highest level HR professionals are just supposed to formulate HR framework, policy and strategy and all other activities being automated.

* With networking of computers and virtualization of HRM department, HR practitioners are having a digital career as there is reduction in cost of technology and automation of process and work from home culture. So HR practitioners have lot of challenges and opportunities. These professionals will be tested on several parameters and to survive and excel have to deliver gold.

* Generation Y are knowledge workers and more technology savvy, there could be hardly any resistance from internal stakeholders and HR department can adhere to its mission and go for digitization. Now demand of the day is to provide services on mobile/ Smartphone platform.

* Social networking or web2.0 technology has already entered in some organizations for providing and solving HR related services and issues, So HR professional and line managers should be ready for it and any other major changes.

* Overall it can be said e-HRM as an instrument in the hand of HR professionals can remove almost all the work related issue and can be strategic enabler, financial contributor, stakeholder satisfier if implemented with right approach and spirit. So whole responsibility is with managers if e-HRM doesn't succeed they cannot blame e-HRM system, if they do then people will use proverb "A bad workman quarrels with his tools".

7.2 Barriers and Limitations

* One of the major constraints of this research is absence of empirical research in Indian context with exclusive studies that investigate impact of e-HRM in term of strategic contribution, financial contribution, and internal stakeholder's satisfaction.

* The data collection needed lot of effort as respondents were the employees of the select Indian public and private organisations.

* Some of the employees were even sceptical of purpose of the study. In some cases researcher has to clarify and persuade the respondents. In some cases especially at operative level the researcher has to explain different queries of e-HRM.

* The study had selected eight organizations as sample organization so its result cannot be blindly generalized to all other organizations. Contextual analysis is important before implementing the results.

* Generalizing out of framework in case to relatively minor organizations, some other areas and segments, marginal divisions of the organization, or some different part of the universe, should be made with vigilance and prudence.

* This study had utilized non- probability sampling. Sample organizations had been selected based on judgment sampling and participants (respondents) were selected based on convenience sampling technique.

* Extracting information related to relevant HR practices or application of ICT for HR services, was hard nut to crack as some employees were unwilling to share as they were bound by code of conduct and were not supposed to disclose office/ business secrets. In this research queries were general so there was hardly any issue of defying service code of conduct.

* One of the limitations of the study it had not taken implementation and operational cost in account while discussing financial matters. Digitization of HRM function is not a standalone activity, in most of the organization and it's very difficult to measure implementation and operating cost in quantitative term.

* One of the limitations of this research is perception based study. Respondent's opinion has been measured. It has been assumed that the employees have provided the correct response.

7.3 Scope of further study

* Present research paves the way of further research which can be based on factors responsible for level of electronic human resource management and ways to increase the level of electronic human resource management.

* Research can be based on why all e-HRM tools are not being used in Indian organizations. What is the significance of social networking or web 2.0 technologies in HR function? As smart phone is high in use in recent times how e-HRM services can be made user-friendly on mobile.

* Research can be based on if most of the organizations of a particular industry implements e-HRM, then whether e-HRM will remain strategic edge enabler or not.

* Further research can be based on value for money, payback period, and return on investment.

* Upcoming research can be based on change in satisfaction level based on pre e-HRM implementation and post e-HRM implementation.

For an Indian organization or any other organization in the world, e-HRM can make HR function more proactive rather than reactive, transforming the function from bureaucratic approach to market approach and a final destination to clan approach. It can be a pull factor rather than a push factor for all stakeholders who are availing HR services**.** Information and communication systems are supposed to be panacea to all the changes and hurdles posed by the system in which business function. To be effective and efficient information system need to have a thought of the people, organization, and the environment in which business operates. Electronic human resource management is an integral system of business organizations and has in built risk. It is obvious HR executives to get acquainted with the ICT first before then others to follow.

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