

# A Comprehensive Literature Review of the Digital HR Research Filed

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## Abstract

**Purpose:** This paper aims to review on the topic of HR and Technology to establish the current trends of HR Technology and, on this basis, to suggest some promising avenues for future research.

**Design/methodology/approach:** The study consists of systemic review of articles and reports on HR and Technology.

**Findings:** The findings contribute to a more holistic view of the topic and complete the study of HR and Technology. Additionally, a conceptual framework is proposed that aims at guiding and informing future research activities.

**Research Limitations / implications:** This study may not have enabled a complete coverage of all articles and reports in the HR and Technology. Yet, based on the chosen research methodology, it seems reasonable to assume that the review process covered a large share of the studies available.

**Originality/value:** To the best of the author knowledge, no systematic literature review on HR and Technology has previously been published in academic journals.

**Keywords:** Digital, HR, people management, analytics and apps.

**Paper type:** Literature Review

## 1. Introduction

Indeed, in present days, we are acknowledging that technological innovations replacing human in HR. The world business emerged with algorithms, talent analytics and predictive behavior technologies having a significant impact on HR. However, what about other side of the coin is that HR is art because as its heart and also embedded with people. The organizational data will be analytics via algorithms, technologies are the new tools helps the data of the organization more effectively, efficiently and scalable. These data is very useful to drive business solutions, facilitate insights to the workforce, forecast the future requirements and it is very helpful to quickly match talent need and measure traits and results critical to an organization success in competitive edge.

Previous versions of HR technologies providers designing applications keeping aim to cater to enable technologies to learn and develop, collaborate, share feedback, steer their career. But now the aim to streamline HR administration, improve record keeping and help redesign HR processes. In the business environment digital technologies are transforming every aspect of HR from sourcing & recruitment of talent workforce, performance management and compensation management. The author intensified that it is need to study technology inference in HR in particular. Therefore, the researcher proposed a study on Technology and HR.

By keeping this backdrop, the author designed the following research question.

What are changes has been drawn in HR with technology inference.

## 2. Methodology of literature review

The study consists of systemic review of articles and reports on HR and Technology. The study has been taken data of the five years from 2012 to 2017. Especially the author has taken only technology changes concepts considered in the study. The author analyzed literature draw the findings and further research directions.

## 3. Discussion

The following the findings are presented, which cover from both quantitative and qualitative insights into the study of technology and HR.

In the area of HR functions such as recruiting, training and performance management these functional areas have been changed via technology impact. In human resources has been significantly impacted by technology is in the area of recruiting. Before introduction of Internet, HR recruiters had to rely on print publications, such as newspapers, to post jobs and get prospects for open positions. Other methods such as networking also used, but HR recruiters did not have the ability to post a job in one or more locations and have millions of people see it all at once. In this era it is possible though technology has made recruiting more efficient and, in the hands of the right recruiter, more use very effectively to draw the best possible solutions. (Nishad Nawaz 2014) The empirical research work explained that the human resource information systems is useful in HR processes and also acts as a strategic tool for organizational development. In the research of (Anthony 2014) explained that the technology acting as an enabler for perform the better and better through cloud based services, decision enabling analytics, borderless teams and real time talent management across the

organization. The researchers used 332 job applications to measure the integrated technology acceptance model (TAM) and concluded that the applicants' behavior is opposite on the online recruitment. (Kashi, K. & Zheng, C., 2013).

In another function of training information technology makes it possible for human resources professionals to train new staff members in a more efficient manner. The ability to access company information and training programs from remote locations eliminates the need for trainers to work directly with new hires on all training programs. Some interaction will always be necessary on some level, of course, but training in virtual classrooms makes it possible for the HR professionals to train a large number of employees quickly and to assess their progress through computerized testing programs. (Nishad Nawaz 2014) The research revealed that those who are working in selected software companies are having right decision in the right time for the right problem in easy way by using of human resources information system.

In Performance Management sub function of HR. Enhanced performance management is another byproduct of technological improvement. Human resources professionals can use computer technology to assess employee performance and also to get employee feedback to be used for the betterment of the organization. Various software programs make it possible for human resources professionals to examine employee performance through metrics to ensure that all of them obtain performance standards. Employees that don't measure up can be subjected to additional training or let go in favor a replacement that can come in and do the job.

Technology has another advantage of database Storage and retrieval. Human resources professionals generally process a considerable amount of paperwork and also have to keep much of that paperwork on file for a considerable period of time. The use of electronic imaging has made it possible for companies to store and retrieve files in an electronic format. Technology also makes it possible for human resources professionals to simply print the forms that are needed for employees. Printing on demand eliminates the need to dig through an endless number of files in the file cabinet to find what is needed.

Many vendors have going with built for the cloud and technology providers redefine HR functions. Even as ERP providers expand their HR product lines, a "third wave" of vendors is emerging with cloud-based talent solutions that are user-friendly, inexpensive to buy, and built for mobile devices from the start. These new vendors target a range of core HR activities, including payroll, recruiting, learning, and employee engagement, time entry and applicant tracking system. The explained the enterprise resource planning (ERP) systems implementation helpfulness in the business performance of the organization. (Nishad Nawaz and Channakeshavalu 2013).

Schwab, explained in the "Fourth Industrial Revolution," describing how digital technologies have radically changed our lives, our societies and our experiences at work. These changes, which impact organizations in every country, are coupled with a new workforce which is increasingly diverse (in gender, age, culture and nationality), demanding and mobile.

The recent recruiting technology works by collecting a bunch of potential recruits and chopping off those who don't meet certain qualifications, or don't use certain buzzwords in their resumes and cover letters of the applicants (Adam Vaccaro 2014). Automating the Recruitment Processes acquiring the best talent involves the planning, sourcing, assessing, hiring and on-boarding of top talent and helps companies in implementing the best practices of recruitment and hiring the best talent available in the market (Tyagi 2012). The automation of HR enhances the professional development of HR professionals in the organization (Nishad Nawaz and Anjali 2012). In the National Institute for Health Research (NIHR) is considerable variation in the consent, recruitment and retention rates in publicly funded randomized controlled trials.(Walters et al. 2017). A research of (Kapse et al. 2012) explored the advantages and disadvantages of E recruitment such as wider access and geographical spread, larger audience, greater chance to find right candidate quicker/with greater effectiveness 24/7 no waiting for issue dates, quicker and time saving/cost saving relatively cheap, better match of workers vacancies, efficiency gains, cost saving/saving personnel costs, access passive jobseekers, reduction of unqualified candidates, more opportunities for smaller companies in advantage and in the area of disadvantages screening and checking the skill mapping and authenticity of millions of resumes is a problem and time consuming exercise for organizations. There is low Internet penetration and no access and lack of awareness of internet in many locations across India, Organizations cannot be dependent solely and totally on the online recruitment methods. In India, the employers and the employees still prefer a face-to-face interaction rather than sending e-mails. The study of (Ashok Kumar 2014) revealed that *perceived usefulness and perceived ease of use plays an important role in IT adoption*. The study is found that the using of HRIS, Information Technology Recruiters and Human Resources Executives not consuming time and cost more than other designation (i.e Human Resources Executives, Human Resources Managers and other functional managers of the selected organizations). (Nishad Nawaz 2012b)

The unified theory of acceptance and use of technology (UTAUT) to social media use in recruitment, and extended it by incorporating two additional moderators, namely the recruiters' managerial position and

educational level.(El Ouiridi et al. 2016). The CEO's surveyed stated that the workforce planning was mainly focused on finance and neglected to put any thought into talent selection (Grant 2015). The companies have to concentrate on selection of the right person otherwise it will pay high costly consequences; this is one of the area HR department come into the picture. In organizations has to rethink how to manage and supply right talent to right place for right work to solve right business solutions by using of innovative technology solutions. (Nishad Nawaz 2014)

As per the survey of CareerBuilder most of the CEO's considered the opinion of the senior managers than the HR department and the survey made a suggestion that the senior management has a lot of experience and knowledge, HR department is very specialized in certain aspects it will helpful for the business to run smoothly. (Career Builder 2015). The software companies are found their competitive advantage in various domains of HR processes by using of human resources information system. (Nishad Nawaz 2012c).

The SHRM survey explained the employee satisfaction towards the communication between their senior management, this is reason there is less gap between employees and executives. Therefore, the most of employee's felt into satisfaction area. (SHRM 2015). The study found that the employees are achieved satisfied in work place after using of human resources information systems in human resources processes. Therefore, the study concludes that satisfaction of the employees in the organization embedded with information system. (Nishad Nawaz and Anjali 2014).

#### **4. Findings**

In the era of technology HR has been changed his skin to match the competitive world to satisfy the need of the employers and employees'. In this direction HR has be to move from traditional to digital. The following areas required to be change in future.

##### **New digital workforce**

In the brave new world emerged the digital workforce. Using of PC went back and technology has been changed everywhere, driven by mobile devices, sensors location awareness and so on.

The new HR applications are embedded with mobile apps, design thinking, video, behavioral economics and the use of system analytics.

##### **Updated HR technology will accelerate**

There is tremendous shift away from traditional licensed HR software moving toward modern, cloud based systems will accelerate. Now HR applications move to mobile devices and may shift to mobile platforms in coming days.

##### **New tools for talent management (people management)**

Bersin introduced the talent management in publication of Deloitte in 2006. Presently the companies are rethinking on how to manage people why because careers are become more dynamic and young generation looking for more leadership skills. The employees are driven recruitment, performance management and training in world market. The talent management software exploded in the market in the 2000 in that period ERP companies have taken lead to design. But now new innovative vendors are want to come-up with various versions and tools to catch the world market. The study has been explored the importance of the talent management benefits for the organization. Talent management creates a warm environment to work, increased productivity & profitability, increased employee retention, increased level of staff engagement and lower recruitment costs. (Nishad Nawaz and Prathibha 2013). Here some of the tools have been listed.

- Next generation performance management and goal setting tools.
- New employee recognition and sharing tools.
- New tools for employee feedback, pulse surveys and real time anonymous feedback.
- Tools to help manage wellness, mindfulness, physical activity.
- Tools for goal management and goal transparency.
- Tools for integrated team management, goals, document and communications sharing.
- Tools for onboarding, knowledge sharing, video learning, content curation.
- New video learning platforms filled with expert content and tools for video creation and sharing.
- Analytics tools to understand candidate quality, retention models and other employee trends.
- Mobile apps for time and attendance management, video recruiting, employee check-in and location management.

##### **Reengineering in performance management**

The global competition forcing ERP vendors to rethink on culture, reward system, the role of managers and how to align people in the organization in to people of network and network of teams.

##### **Culture, engagement and feedback**

The companies in all industries are realized that they have to compete and operate based on culture, if they not watching on daily basis and it is not possible to get improve for further. The companies are introducing

red/yellow/red button to know the satisfaction level of the employees at the end of the day. It will be very useful feedback for HR to take decisions on a regular basis.

#### **Development of global leadership**

The companies are realized that leadership skills should accelerate in the earlier careers and need keep mentoring and design new models and reward systems for talent mobility. So, majority of the companies are moving towards new leadership development strategy. The study has been found that mobility of the talent the organizations will get good number of benefits such as interconnectivity in workforce, opportunity to create new leadership skills, employee engagement and place right person in right place. (Nishad Nawaz 2013).

#### **Revolution in corporate learning**

In everywhere employees are using video learning platform to learn new knowledge. Learning and development has been moving towards digital transformation, learning experience design and peer to peer learning. It will act as a “Learning curve is the Earning Curve”.

#### **Diversity, inclusion, and gender inequality are in priority**

The research of Stacia Garr and Candace Atamanik of Deloitte explained that building an inclusive culture is very most priority topic before the CEO’s and senior executives and while reinvention of talent management should be embedding inclusion and diversity into every people practice in the company (source of recruitment to assessment of promotion). The majorities of the companies programs focusing on women, race and cultural diversity to make impact on HR so, it will grow importance throughout the year.

#### **Analytics and Information-driven decision making process**

The organizations have a huge opportunity of using of information to understand people work environment to get rid of the risk and compliance violations. Therefore, organizations need to adopt analytics teams with HR.

#### **Reinvention of HR**

In the field of HR young, innovative and creative professional are entering senior level in HR, they are come up with new ideas about how to leverage digital technologies, how make experiment with new programs, how to use behavioral economics, how to introduce more flexible environment and humane working environment.

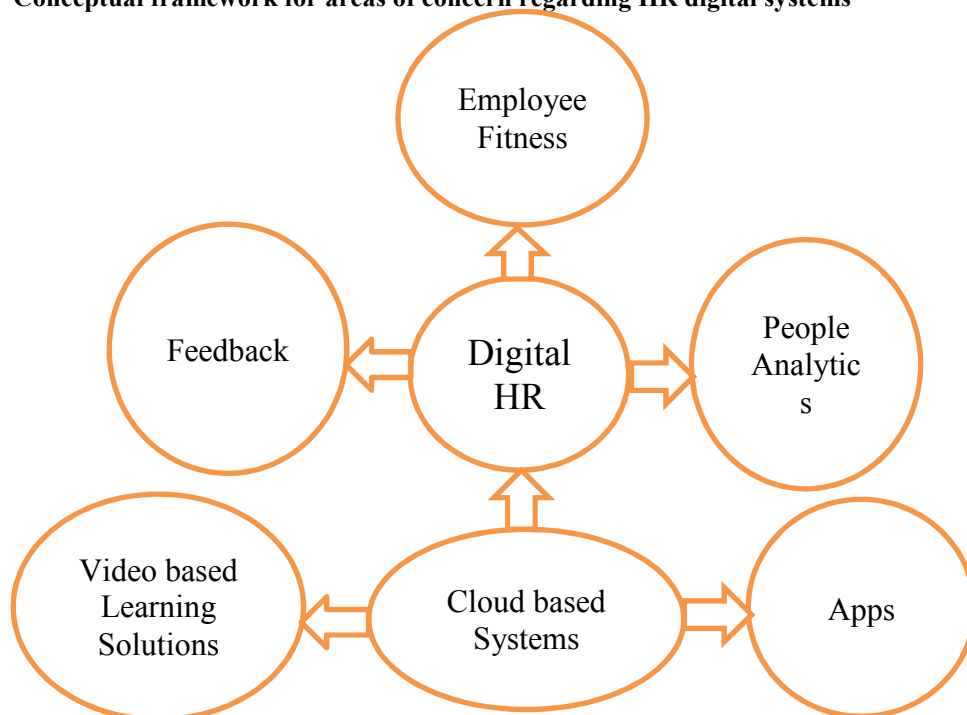
#### **Cloud based software as a service solution**

Mobile and social functionality both are standard requirement in technology vendor selection. The decision enabling analytics, measuring and predicting employee performance, mobile apps these are facilitating the real time talent management across borders and in remote locations. Nevertheless, technology remains an enabler for human resources and underlying all functional improvements that technology can bring, leader of the organization still need to provide direction and clarity, managers still need to engage and well communication with their teams and employees looking forward to connect with their work and team members. The cloud technology is only tool to get work done fast but it is need the right processes, skills, culture and behavior’s in place for successful change. (Robert Bolton 2016). The another piece of research work concluded that organizations heavily depend on the HRIS SaaS and cloud computing.(Nishad Nawaz 2012a)

#### **Other areas of concerns in HR technology**

- (i) The ERP vendors have to concentrate in advance technologies of HR, which take from quantity to quality
- (ii) The vendors should not facilitate dazzle, hype and complicated products, they need go with smart technologies that are very user friendly and deliver targeted results.
- (iii) The companies should smart while implementation of technologies, these technologies are to be easy to implement and my employees are going to adopt. So, ignore all the bells and whistles and need to calculate these technologies worth enough to implement by the organizations.
- (iv) It is very vital for the companies regarding software analytics it should be single stack software and any tool that enables relevant data to be collected and shared between departments with ease and speed. It should allow everyone to be on the same page, speaking the same language. The line managers can see what is happening across the organization and have to respond quickly their questions.
- (v) The organizations have to implement technology based on social media, these will give up continues learning it leads to the development. Social media provide real time knowledge and hype. It is act as an amazing talent management, branding and employee engagement tool. The social media, social learning and data are an unparalleled communicates if organization use correctly. It will be act as cohesion tool of the organization.
- (vi) The organization has to know real time talent management matters, these tools that allow continuous monitoring of performance of everyone. These features of software enable us to stay on top of things in real time. Problems are nipped in the bud and the good stuff like gamification, recognition, and rewards are in place to offer more productive employee relationships that can be nurtured. No more playing catch-up. Real time monitoring gives HR and Leaders more power to do more good and weed out the people who are not a good fit.
- (vii) In the era of new generation mobile growing very fast and HR has to be, too. To reach the right talent, applications need to be mobile friendly in design and ease of usage. So, if it is very ease for HR to go where the talent is.

## Review of the HR digital research field Conceptual framework for areas of concern regarding HR digital systems



**Figure 1**

- (1) The organizations have to implement their upgrade of HRMS Systems with cloud based. The vendors of ERP (Oracle, SAP, Workday, ADP, Ceridian, Ultimate Software, and others) have to come up with new HRMS systems based on cloud and talent management suites.
- (2) The vendors have to redefine their learning, recruitment and other talent applications. Learning systems need to be act as a video based learning solution, in recruitment applicant tracking system (ATS) systems are quite old so ERP vendors have to upgrade their applications why because the talent management market become huge.
- (3) Feedback of the market, culture and engagement apps has been to design to kill the traditional methods.
- (4) In present market employees are become much matured regarding their fitness and other related matters. So, now companies have to develop their systems to facilitate employees health-related challenges, track their fitness, collaborate with their health care providers or others, and just help balance their work-life.
- (5) In the era of people analytics, the organizations have to have strong people analytics strategies to succeed in the market the vendors have to embed predictive analytics into their product.
- (6) Apps as the Platform of the Future. The organizations have to go for Apps as the platform in the future to get rid of the traditional methods (i.e browser based web systems) it will be easy to make network, collaborations, peer to peer and location identification of the employee.

### 5. Conclusion and further research

The researcher provided the reader with an overview of the HR digital research field and a conceptual framework of the different areas of concern. The findings can hopefully act as a foundation for researchers for further research in HR digital and it will be assist other researchers in the identification of related studies in the literature review phase of their work. Finally, the bibliographical Mendeley database and its rich set of empirical data can hopefully be used by others in future research and analyses.

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