

# HRM 4.0: RECENT INNOVATIONS AND TRENDS IN HR ACTIVITIES

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**Abstract:** *The inception of digitalisation across the globe has revolutionised the way all activities of human kind. From the beginning of the day till the end we have technology as our invisible partner assisting us in almost everything we do. The biggest advantage of this is enjoyed by the businesses as almost all the operations of business have gained momentum due to technology, which has lead businesses to earn profits like never before. Human Resource Management is one such function which has gained efficiency and speed in its operations due to technological interference. Major HR activities like recruitment, selection, performance appraisal, training and development are managed within no time and efforts. This paper aims to highlight the ways in which these major activities of HRM have been transformed in businesses today. Technology also brings along with it some challenges, which, if not addressed in time, may lead to losses rather than profit. In this paper we would also see what are the major challenges that businesses are faced with today due to digitalisation in HR function. We would also look at future prospects of 21st century HRM activities in terms of growing technological advancements.*

**Keywords:** *Challenges, Future trends, HRM innovations, HR activities, Industry 4.0.*

## Introduction

Present day businesses are witnessing never before technological breakthroughs in the form of Artificial Intelligence (AI), Data analytics, Robotics, Internet of things etc. which have completely transformed all dimensions of human life across the globe. These technologies have the capability of solving complex business problems, which once needed human intervention. The current era is known as Industry 4.0,

considering it to be the fourth industrial revolution with respect to manufacturing operations. This industrial revolution is brought about by modern technologies and it is not the manufacturing function of business alone, that has revolutionised itself due to technological wonders, but almost all the major functions of business like finance, marketing, production and HR. The changes taken place in the field of Human Resource management due to industry 4.0 have renamed HRM as HRM 4.0. All the activities undertaken by HR department such as recruitment, selection, performance appraisal, training and development, compensation, career and succession planning etc. are now done with the help of Artificial Intelligence (AI), Data analytics, Robotics, Internet of things etc, which has made it possible to plan and execute these activities in more accurate and timely manner. Although HRM has already progressed a lot since the last century, its progression from being known as personnel management, which was largely an administrative function, to being known as Human Resource Management, with a human element in it, and then moving ahead to be called as strategic Human Resource Management, due to further advancements in the field and now with the advent of disruptive innovative technologies, HRM has transformed further to be called as e-HRM [1], or Smart Human Resource Management (Smart HRM) [2], where major activities of related to human resources in an organisation are not being done through technology. Though these new techniques of working are making the work of HR professional easier, they also bring along some challenges with them like meeting the need of highly competitive, Gen Z workforce. The e-HRM concept is still in its growing stage and has long way to go and future looks very bright as technology is still emerging everyday.

### **Human Resource Management(HRM)**

Human resource management is that internal business function which gives business employees, a voice and allows a channel of process for employees so that an efficient and equitable employment may be developed and enhanced. HRM has been viewed through different perspectives since its origin in 1800 B.C. and is now being acknowledged as an integral function of business as well as an important part of

academic concerns [3]. Today we have come a long way from the times when human resources management was known as personnel management, emphasising only on the administrative aspect of managing employees and being a low key function in management. Today Human Resource Management encompassing the ‘human’ element in it, is considered to be utmost importance in order for a business to achieve a competitive edge. After globalisation, the Human Resources also required to be developed in order to meet the global standards and face the competition at the international level. With the passage of time it turned into strategic human resource management and became a vital part of strategic planning of an organisation. As the environment changed further, there arose a need to bring more changes in the concept of HRM, the new environment is highly dynamic and competitive, it now demands businesses to work on issues like sustainability. With the new innovative technologies pouring in every day, the organisations took the call and transformed the function into e-HRM [4]. Several academicians have denoted this linkage of HRM function with information technology with various other names like ‘web-based HRM’, ‘HRIS’, ‘HR analytics’, ‘Digital HRM’ and ‘Smart HRM’ [5],[6],[7],[8],[9]. The new technologies are paving way towards reinvention of HRM as a function and intensifying its scope.

#### **Industry 4.0**

Industry 4.0 *“is a dynamic and integrated system for exerting control over the entire value chain of the lifecycle of products. Vertical and horizontal integration and fusion of the physical and the virtual worlds is at the heart of Industry 4.0”* [10]. The concept appeared in 2011 in Germany where the Govt. came forward to support and transform the manufacturing industry with the help of technology and announced that technology is taking the world towards fourth industrial revolution. The idea then spread to the whole world. Industry 4.0 is driven by Cyber physical Systems(CPS), which are composed of robots and programmable machines capable of collecting and exchanging data in real time. CPS allows machine to machine as well as human to machine connection to successfully operate the manufacturing system. The sensors fixed in products allow data collection, control and processing, making them smart products. The

new era of business enables all necessary ingredients of manufacturing system to communicate, connect and operate simultaneously [11].

### **Smart HRM or HRM 4.0**

The effect of technology is observed in every aspect of business activity today. Technology has transformed almost all functionalities of business whether it is finance, marketing, production or Human Resource management. And now in the 21st century, the technological innovations started affecting the function of HR also and led to the coining of a new term Smart Human Resources 4.0 (SHR 4.0). Therefore SHR 4.0 *“is evolving as a part of the overall 4th Industrial Revolution and is characterised by innovations in digital technologies such as Internet of things, big data analytics and Artificial Intelligence (AI) and fast data networks such as 4G and 5G for the effective management of next generation employees”* [12]. With high technology there emerges a need of recruiting, selecting, training and developing competent human resources so as to match the speed of growing technology. This has posed a greater challenge and responsibility for human resource department of businesses which now have to focus more on meeting the needs of highly competitive workforce. The adaptation and adoption of these new technologies was slower in India as compared to rest of the world due to factors like lack of infrastructure and high costs involved. But we are slowly and gradually evolving and events like COVID 19 has given us a good reason to embrace new ways of working, as in India too almost all businesses had to adopt the online mode of working. Therefore human resource management has now redefined and reshaped itself according to the need of the hour.

### **Observable changes in major HR functions**

The new technological revolution has completely changed the way HR activities were carried out just a few years ago. Starting from inviting job applications from potential employees to their selection, placement, induction, training, compensation, performance management, retention etc., all the major HR activities have become hybrid. Even the working of employees in the organisation has changed with a mix

of full time, part time, remote workers, gig workers etc. this makes the work of HR also a bit challenging, but thanks to digital technologies like AI, IOT, Big data, robotics etc. which make the work manageable and easy. Let's see what changes have occurred in various HR functions due to digitalisation.

1. Recruitment and selection activities these days are done with the help of AI driven technologies. Starting from job posting which is done after looking at the job requirement data, is done through smart apps [13]. When a candidate wishes to apply for the job position, and has some queries regarding the job position, a chat box pops up, supported by AI tools and helps the candidate clarify all doubts regarding the job position and its application [14]. One such AI supported software is 'application tracking system' which is a great recruitment tool to execute all requirement needs electronically. Shortlisting of suitable candidates is done electronically by searching the keywords in the resume and through AI supported automated initial resume screening. The remaining candidates are made to go through online tests to know about basic skills or simulation tests are conducted with the help of virtual reality technique [15]. After this, the candidates are interviewed face to face, telephonically or through video conferencing with the help of AI chatbots which allows vindicating responses in real time, eliminating bias. Natural language processing (NLP) is also used for recruitment and selection. Selected candidates go through final screening and job offer is sent electronically.
2. Performance and reward management is also conducted through AI assisted technologies which allow continuous performance evaluation and feed back as well as taking timely corrective actions. Employee performance and other related data is stored and updated from time to time, softwares are used to analyse the data and also conduct a 360 degree feedback which is reported to employees from time to time. Performance is audited and measured on the basis of some key variables such as job completion, achievements done, time taken for task completion and errors done [16]. Businesses today are providing real time performance appraisals instead of traditional annual performance

appraisals, thereby motivating employees [17]. Composite reward systems are followed which monitor individual performance of employees.

3. Training and development of employees is planned as soon as the performance gaps are identified after performance measurement. Gap identification is also done these days through AI based softwares. The companies these days are developing their training modules based on IT and are providing online training to their employees which are even accessible to be viewed a later at their own convenient time. The businesses are able to save training costs this way and employees are able to attend training from any geographical location. Online certification courses are also made available to employees to train and upgrade their skills as well as get certification to help them reach higher in jobs. [18]. Development activities are also managed by organisations through well being apps.
4. Employee Compensation is also being easily managed by companies with the help of accounting softwares which are able to access the employee data and administer employee salary, incentives, allowance, medical, gratuity, taxes and insurance, altogether within no time [19]. Skill data based compensation is prepared these days which brings fairness and equity among employees.

### **Challenges involved in HRM 4.0**

The changes being brought about by the new technological advancements will definitely change the way we work, both interns of quality and quantity. With all the benefits enjoyed due to smart industry practices, there will surely come some challenges also which cannot be ignored. Some of these may be as under.

1. The biggest challenge while working with technology in HRM will be data security, all the data stored at various stages of an employees career in an organisation may face security and privacy issues as the data can be easily stolen and used used anywhere [20].

2. Generation Z will be able to deal with these technical changes better as they have been born and brought up with these technologies, but the employees from last generation may find it difficult to cope up with such quick transitions in work process every day, and therefore will find difficult to save their jobs.
3. HRM is a field purely dedicated to human resources of an organisation, but with the advent of smart technologies, very soon robots will take the place of humans in every sector. It will be a challenge as to how robots will be able to understand and manage the human side of employees, because after all they are machines.
4. As more digitalisation happens, and systems become more automated, there will be an upsurge in higher level managerial and technical jobs, but mid level and lower level jobs will slowly disappear. This will give rise to inequality and increase in polarisation [21]. This would create social and economic gap also in the society.
5. Smart industry will comprise mostly of virtual employees, sitting at various corners of the world, and possibly there will be employees whom the employer may not have met ever in person. When it comes to their employment rights and job security, the employees may face exploitation as there will be no one to fight for their rights on a digital work front [22].

**Conclusion:**

The new radical changes brought about by breakthrough technologies in all spheres of business landscape has brought about huge transformation in the way human resource department of an organisation works. HRM has changed in meaning and context completely. Automation and digitalisation has helped the organisations in one hand by reducing the work of HR to almost half, but at the same time has posed certain operational challenges like technically training HR employees for Smart HRM, managing workforce diversity, managing change, developing 21st century leadership, succession planning etc. and some technical challenges like security of employee data. The future holds bright for HR department with



so many technologies in hand. The future may also include more employee engagement, tailor-made training and development modules, global approach in managing employees, more employee friendly environment and a happy employee.

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