

# Growing Role of Artificial Intelligence in Various Human Resource functions of Modern Business Organizations- A Literature Review

Brijendra Singh Yadav<sup>1</sup>, Anuj Kumar Sharma<sup>2</sup>

<sup>1</sup>Principal- Management, Vivek Group of Colleges, Bijnor City, Uttar Pradesh State, India

<sup>2</sup>Assistant Professor- Department of Computer Applications  
Vivek Group of Colleges, Bijnor City, Uttar Pradesh State, India

**Abstract:** The Artificial Intelligence (AI), an emerging field and domain area especially from last two decades with the successful application of Machine Learning (ML) and its boom is observed in the competitive market by the various modern organizations to establish their business entities as a sustainable one. The Artificial Intelligence (AI) ability is nothing but a function of a machine to perform cognitive functions associated with the human mind. The Artificial Intelligence (AI) is used everywhere by all big Corporations specifically IBM Watson's autonomous weaponry as splendid example. Today, AI has entered the big corporate premises and successful enough in engaging the workforce. It is also helping the employees in managing their time tactfully and add strategic value to the Human Resource functions. Besides, it also offers a range of abilities that may solve the many of business problems of day to day life. In fact, the Artificial Intelligence (AI) has the potential to make organization sustainable enough in the efficiency and productivity of various subunits by introducing high-scale automation for outdated, tedious and time-consuming tasks.

According to a new McKinsey Global Survey, most organizations are implementing AI devices across their standard business operations. However, the real adoption of Artificial Intelligence (AI) is only witnessed by thirty percent of the respondents of the McKinsey survey claimed to pilot the use of AI.

The present Descriptive Research paper focuses attention towards Growing Role of Artificial Intelligence in Various Human Resource functions of Modern Organizations by effective Machine Learning tools of modern society to get their work in an easier and smarter way.

**Keywords:** Artificial Intelligence, Human Resource Functions, Potential benefits, Machine Learning.

## I. INRODUCTION

“Artificial Intelligence” is defined as “an ideal ‘intelligent’ machine that is a flexible rational agent that perceives its environment and takes actions that maximize its chance of success at some goal.”

In the Modern aged competitive industrial world, collecting the right and correct data and its analysis for the growth of companies in various terms is essential. Artificial Intelligence undoubtedly helps the corporate premises to work in more effective and efficient way to complete the task with almost negligible error. Artificial Intelligence is almost in use by various departments like Human Resources, Finance, Marketing and Production - Operations department. By using the artificial system, the organization may find themselves able to inform the existing performance and day-to-day functions. Since business pressure is increasing day by day, the laborious have started understanding the relevance of Artificial Intelligence at workplace.

“We are witnessing a change in the nature of jobs. Muscle jobs are disappearing, finger and brain jobs are growing or, to put it more formally, labor-based industries have been displaced by skill-based industries and these in turn will have to be replaced by knowledge-based industries.” (Charles Handy, 1984)

In the present competitive edged market full of digitization, where every business person is connecting digitally via internet and technology and getting updated very in various concerns of business. With the increasing pressure to involve the HR managers into the strategic decisions, the organizations have understood the importance of using new technology in leveraging their Human Resource System. Rapid changes in business environment require quick response. To compete in the market, the organizations invest in Research and Development to bring some new technologies. Artificial intelligence is the new technology which enables the fast analysis of data by people that do not have special skills in data analysis. Artificial Intelligence is helping the people in integrating different systems and also provides a base that can support all functions of Human Resource ranging from Recruitment and Selection, Training and Development, Compensation Administration and Performance Management.

Artificial Intelligence by using Comprehensive skills like Repository and Machine learning algorithms, create sharp Job Descriptions armed with pertinent marker resulting in perfect Resume Matching. Through this technique, the organizations are able to match the right candidates for the right vacancy at the right time and with the right intention in a more rational manner and by avoiding the biasness for the candidate. It can give competitive edge over competitors.

## II. LITERATURE REVIEW

S.NO.	CONTRIBUTOR	THEORY/ MODEL CONTRIBUTED
1	Kapoor B. (2010)	The author examined that the Human Resources can position itself as essential Value-adding department of the organization by taking the advantage of Business Intelligence.
2	Dianna L. et. al (2015)	Reviewed the current effects of technology on HR processes and discuss the advantages and potential limitations of using Information Systems. The authors suggested that the movement towards her is expected to grow in the future but many of the traditional HR research findings also apply to e-HR.
3	Ulrich and Dulebon (2015)	Described the emergence of HR and propose the future of HR for increased and sustainable value. The author has studied the HR's transformation waves from administrative to HR strategy waves.
4	Hussein et. al (2016)	Reviews the history of artificial intelligence in auditing and analyze the components of conceptualization of AI for auditing: sensing, achieving and predictive technologies, meta-controls/meta – processes, exogenous measurement, rapid detection of phenomenon, integration of evidence and the data for deep learning in auditing. The authors concludes that AI will potentially replace auditors in various automated tasks, and is capable of of automatically designing the entire audit plan based on the situation of the client and the existing evidences, self correcting mistakes, and continuously improving the audit process.
5	Buzko et al. (2016)	found that the main factor for influencing the amount of training in the company is the net income of the company for the previous year and the transition from discrete paradigm of information processing to continuous paradigm allow faster and more accurate adapting to environment requirements. The authors have concluded that in the modern business conditions, it becomes more relevant to use artificial intelligence technologies for decision making.
6	Kolbjornsrud et al. (2016)	reviewed the fact that artificial intelligence will soon be able to do the administrative tasks that consume much of managers' time faster, better and at lower cost.
7	Rob May ( Jan 2017)	explained that Artificial intelligence is a combination of machine learning and natural language processing and it is very useful in the workplace setting. AI software technology will be applied in a number of common repetitive administrative functions in next three to five years. As per report on “Amplifying human-potential towards purposeful AI” by CEO Infosys use of artificial intelligence in organization by explaining it in terms of computer science to develop strategic plan and also discuss the use of AI by dealing with ethical issues and discuss the future generations workforce in terms of skills and flexibility to successes in the world of AI.
8	Shweta Jain (2017)	in his paper author discuss about how artificial intelligence bring out total digital transformation when the organization well coordinate with the different units like HR, marketing ,Finance ,Manufacturing or process.

9	Tripathi et al (2012)	discussed the impact of an expert system which is used in evaluating the job. They also evaluate how expert system in hr context in teaching and learning system.
10	Barnett(2016)	in his article he focused that role of data has become less of a competitive differentiate and more of competitive necessity in today business world as AI is required in every field of management but HR leaders are giving more importance to the data driven insight as it is helping in reducing risk and driving success in decision making in talent management and organizational performance.

### III. RESEARCH OBJECTIVES

Following are the objectives of the study:

1. To find out the benefit or importance of using the Artificial Intelligence in Human Resource Management.
2. To evaluate how Artificial Intelligence can revolutionize the HR Process.

### IV. RESEARCH METHODOLOGY

This study is done by using the Descriptive Research Design to describe the scope of Artificial Intelligence in Human Resource Management processes. Secondary data collection method is used for the study. The data has been collected through the articles published in newspaper, Magazine, HR Blogs, Research journal and Survey Reports published in various forms.

### V. FACTORS REQUIRED FOR SUCCESSFUL AI IMPLEMENTATION

Undoubtedly Artificial Intelligence can lead to a significant impact on the HR value chain, there needs to be a availability of some base factors. These mandate bases should create value aspects for future HR systems. In line of this, the organizations need to begin with the right mental attitude towards AI adoption with clear business goals. The responsibility of which does not lie only with the HR heads, but with the overall leadership. The leadership also needs to disseminate the various subsets of AI technology adoption at each possible level.

For HR processes, there has to be a change management strategy in place as well to deal with the workforce's emotional and work-related issues resulting from an organization's focus in this space.

The purpose of adoption of Artificial Intelligence adoption in HR systems of any Business Organization is to improve the efficiency and effectiveness of HR so that it can meet its core mission. Employee engagement and improved employee experience are at the heart and soul of any successful HR operations. This should be borne in mind that the ultimate role of AI in HR technology is to facilitate employee experience at all levels.

### VI. DIFFERENT USAGES OF ARTIFICIAL INTELLIGENCE IN BUSINESS

Artificial Intelligence is an emerging area in the field of HR Technology which can replace or enhance the effectiveness of Human Resource Management processes. Artificial Intelligence can be used by organizations for Candidate screening, Employee engagement, Employee re – engagement and Career Development. It can be applied to HR policies, procedures and HR perspective and can enhance the effectiveness of whole Human Resource Management.

Many others are exploring ways of utilizing it to improve their productivity, Ease and Efficiency. The organizations already using Artificial Intelligence have confirmed that it has resulted in a progressive transformation of their core processes such as Manufacturing, Marketing, Human Resources, etc.

### VII. THE RELEVANCE AND SCOPE OF ARTIFICIAL INTELLIGENCE IN VARIOUS HR FUNCTIONS

Human Resources is one of the integral function of any Business Organization. The better adoption of Artificial Intelligence can spell transformation for this function too. A survey done by Deloitte Company realized that 40 percent of respondent companies were using Artificial Intelligence subsets in their Human Resource functions or systems in either forms. However, the benefits are not immediate in any case.

A growing number of startups are providing AI-based technology and services to HR functions for various activities. Some of the key ways in which Artificial Intelligence can play an appropriate role in HR technology as given below:

#### *7.1 Talent management*

Every organization has human capital needs and for that does Organizational planning is done to fulfill those requirements. It is called as Human Resource Planning under which certain activities are done like Talent Acquisition, Employee Management, Performance Management, Succession Management, etc.

For example, Organizations like Greenhouse Software are integrating IBM-AI capabilities through the IBM Watson Candidate Assistant which is a suite of AI-powered tools that matches best jobs with the best candidates and vice-versa based on their Personality traits, Skills and interest areas. Greenhouse collects candidate data through various channels including Social media.

For example, it would observe minute details of the work submitted by an employee through LinkedIn or Glassdoor and maintains scorecard of all the employees based on its own analysis with Zero human intervention. This helps the interviewers sort through the applications ahead of time and keeps the talent pipeline ready.

### *7.2 Recruitment*

Artificial Intelligence tools help companies in the process of Pre-hire in which candidate will be assessed for future hirings. Sample this, a candidate applies for a role in a company by entering his resume. An AI-powered system analyses his resume and compares it with the present well-performing employees in the same role.

A chatbot (a system) reaches out to the candidate and asks some Pre-screening questions. The candidate's response is collected and AI uses it to score the candidate and present the result to the prospective recruiter. The recruiter then decides whether to move ahead towards the interview stage or not. Such data cumulatively collected and is assessed regarding how well a candidate will perform on the job. In this way, AI capabilities lessen the scope of human biasness and speed up the recruitment process.

### *7.3 Scheduling*

Artificial Intelligence personal assistance as given by various platforms like 'Amy Ingram' for Scheduling Meetings, Interviews and even ordering the food. 'Amy' is a human-like AI-assistant who learns from observing employee choices or preferences over time and then manages it in an automated manner for them. Similarly, AI-based tools like 'zoom.ai' allow employees to offload and automate regular tasks like 'look for a file' and 'schedule meetings'. This gives a clear path to employees for escaping themselves from not getting involved in unproductive tasks that hampers their productivity efficiency.

### *7.4 On-boarding Process*

The Study reveals that employees who go through structured on-boarding are 58 percent more likely to remain with the organization after 3 years. AI tools like zoom.ai collect the relevant data from new employees as well as generate their offer, send out the documents and answer the queries. The queries may range from how to fix the printer to setting up passwords, etc. It serves double duty i.e. on one hand it saves the time of HR Manager and also on the other hand makes the process easy for the employees. In this way, the HR teams can focus more on integrating the employee into the mainstream objectives of the organization.

### *7.5 Sentiment analysis*

'Ultimate Software' is a company which has built an Artificial Intelligence based Sentiment analysis system known as 'Perception' to measure the employee sentiments and solve workplace issues. Through this the employees get their problem resolved and in great impact factor, the employee's performance gets increased.

The main system approach of 'Perception' is that it uses Machine language processing algorithms – a sub-domain of AI. By collecting and analyzing the languages accumulated over a period of time, Perception gauges employee feelings through it. The company then uses the learning in order to chalk out any issues related to employee well-being and proceed accordingly for more and more Employee Engagement activities.

## VIII. BENEFITS OF ARTIFICIAL INTELLIGENCE IN VARIOUS HUMAN RESOURCE FUNCTIONS

The various functions of Human Resources in modern organizations where the great usage of Artificial Intelligence may be seen easily and providing the following benefits:

Empowering virtual assistance without affecting the present job of employees

Developing employee skills towards maximum efficiency in tasks.

Organizing the whole data required for future Human resource planning.

Managing the workplace through right automation and conditional situations.

Saves time.

More precision in work can be expected.

Organizations are able to forecast their future requirements strategically with AI.

Advance completion of assignment and tasks.  
Overcoming the limitations with great ease.  
It can handle responsibilities and can be programmed accordingly to manage them.  
The smart card based systems may prevent the involvement of frauds..  
Organizations may install the face recognition techniques for the highly risk tasks.  
Digital assistance to the employees while saving the time of employees.  
No role of Human Sentiments and emotions in the AI system that's why it is more logical.

#### IX. CONCLUSION

Machine's brain is superlative to Humans intelligent approach in terms of its reasonableness. Human Resource software nowadays so popular to be used by almost all modern organizations. The data processing system in any computer or the software uses effective way to achieve the objectives of any task. This technical exploration or innovation must be helpful to the HR managers to manage the HR process, policies, and employees effectively on one hand and transforming the whole HR system progressively on the other hand. It is beneficial for both employee and employer to create a win-win for both. Employers are no more dependent on the manpower; they can get their work done through the machine effectively. Although it may reduce the dependency on the manpower but still employers will be requiring efficient manager, skilled workers, and professional to tackle with the system. It will help the employees to reduce the paper work; lengthy process will no long be lengthier. It will reduce the stress of the employees because, employees can feed the data in the system and analysis can easily be done. There may be internal and external forces which may affect the new technological AI systems. Internal factors such as employees' resistance to learn something new, unskilled workers, unavailability of resources etc. External factors which may affect the system such as change in government, political factors or even environmental factors or economic factors which may have direct influence on any business is only the point of limitations; otherwise AI is a big successful approach capable of making any business- a successful one. The technology has changed the way of working system. The credit goes to the programmers, processors, computers and internet. The world has become smaller and future generation will use advance technologies for the various Human Resource Management purposes.

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