

AI-Empowered Human Resource Management Practices in the IT Sector

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ABSTRACT

Artificial intelligence (AI) is increasingly becoming a critical component of human resource management (HRM) across various industries, including business management. With the integration of data science, decision-making processes have become more efficient and streamlined. AI-powered HRM practices enhance key areas such as recruitment, learning, training and development, performance management, and compensation management, all of which contribute significantly to organizational success. By automating routine tasks, AI enables HR professionals to focus on more complex and strategic initiatives. This study aims to explore the application of AI-driven HRM practices in major IT companies based in Kolkata, India, and their impact on overall organizational performance. A case study method was used to analyse how companies adopt and implement various AI tools and metrics in their HRM processes. One prominent example is the use of Watson Candidate Assistant metrics, which assist in measuring employee engagement and provide valuable insights into workforce dynamics. Given the labour-intensive nature of the IT sector, which employs a large workforce, ensuring employee satisfaction is crucial for maintaining high levels of organizational performance. By emphasizing the role of data analytics, this study underscores the importance of AI-empowered HRM in enhancing employee satisfaction and, consequently, overall organizational efficiency. The findings of this research are particularly relevant for companies in the IT sector in Kolkata, offering insights into the adoption and benefits of AI in HRM practices. This paper aims to contribute to the growing body of knowledge on AI's transformative potential in HR management, especially within labour-intensive industries and current rapidly evolving scenario.

Keywords—Artificial, Intelligence, Human, Resource, Management, Methods, Metrics etc.

I. INTRODUCTION

The process of allocating, managing, and arranging human resources to further the goals of an organization is called human resource management. The primary objectives of human resource management include employee investment, safety, and personnel management, including hiring, compensation, and development. HR management works to meet its objective, to complete its goals, and to develop a good corporate culture throughout human management. HRM involves arranging, leading, and supervising employees inside a business to achieve its goals, vision, and mission. This includes recruiting, educating, compensating, motivating, and keeping employees. Employee relations staff members develop and carry out policies and procedures to support employee safety (Aggarwal & Kathuria, 2023). The HRM

department is in charge of monitoring all national and local laws that can protect employees' private information, ensure their physical safety, and promote their mental and emotional health. HRM, regardless of its size or sector, allows organisations to run smoothly and efficiently.

For the corporate world, HRM is an important aspect of the organization. First, it is important to monitor the quality of work life, which refers to how well an employee's well-being is there while working in the organization. Human resources (HR) are responsible for managing the organization's resources and ensuring that they are adequate. It is their duty to identify suitable applicants for the position to ensure exceptional performance by matching the right person with the right role. HRM is primarily responsible for developing a positive work environment and increasing employee engagement.

Furthermore, motivating everyone to give their best work is essential. Expressing gratitude and acknowledgement to employees for their work is one technique to achieve this goal (Boehmer & Schinnenburg, 2023). Getting acknowledged by their employer increases employees' purpose in their job and motivates them to perform better the next time. HR managers monitor and carry out the strategies set out by higher management to help organisations achieve their goals and objectives. Any firm that wants to remain competitive must maintain a positive public image. Establishing and maintaining a positive company image from the perspective of internal and external audiences is crucial for HRM in this situation. Conflicts always arise when individuals work together, whether in a large team or a small group. Unavoidable conflicts must be resolved quickly to prevent them from affecting the organization's capacity to function effectively. HR management is necessary to resolve these disagreements in an impartial and systematic manner. Thus, human resource managers can serve as a balancing mechanism inside an organization. They support maintaining team spirit and morale in workplaces to enhance productivity and results (Ekuma, 2024).

II. LITERATURE REVIEW

Artificial intelligence in human resource management (HRM) refers to the use of AI technology and techniques for various HRM activities and procedures. The goal of applying AI to HR activities is to increase their productivity, efficiency, and strategic importance by streamlining procedures and managing data-driven information. The use of digital assistants increases the value of AI in HR significantly. These AI-powered assistants use technologies to figure out natural language and clarify the objective of a query. They then respond and give wise advice on how to finish the activities that are required. AI includes a variety of methods that enable software programs to make decisions that are well-informed. Boosting organisational performance can be accomplished by its implementation into HRM procedures.

AI and machine learning are the current keywords in technology that are significantly important in HRM practices. AI simplifies and transforms data in an easy and understandable way, whereas machine learning is an upgraded form of AI that examines and helps to

identify and modify actions correspondingly (Fraij & László, 2021), (Majumder & Dey, 2022). Due to the AI introduction and wide range of usages, HR professionals can now complete many important tasks much faster than in the past. Talent acquisition and recruitment are two of the first HR jobs in which AI has been used for improvement. By automating routine operations, artificial intelligence has significantly reduced the time spent recruiting new staff, from posting jobs to extending employment offers. AI can streamline and personalize the boarding process, which is an essential part of human resources. Nick Gallimore, director of Talent Transformation & Insight at Advanced, mentioned that AI-powered chatbots can help new hires with the on boarding process by responding to inquiries, offering guidance, and providing information. He also stated that AI can monitor employee engagement, performance, and behaviour by offering HR departments useful information. The technology has the ability to examine employee data, including emails, chats, and work schedules, to identify indications of misconduct, disengagement, or stress. Employee career growth and promotion are facilitated by the use of AI techniques for determining internal potential. Enormous datasets can be analysed by using AI software to find trends and recommend solutions. HR professionals focus on developing new strategies by using AI to ease and automate time-saving and continuous tasks. In addition, AI improves the decision-making process by providing valuable information through predictive analytics and human resources (Balamourougane, Babu, & Theertha, 2019; Hmoud, 2021). The major difficulty that HR managers deal during performance appraisal and evaluation is bias. Through the use of AI, appraisals are made without any bias, and they are analysed beyond spreadsheet analysis. It simplifies payroll procedures and helps in estimating workplace morale. AI-driven HRM functions (Fig. 1) are i) Recruitment and Selection: This area of work includes bringing in, identifying, and employing competent applicants to occupy available positions inside the organization. It involves tasks such as conducting interviews, reviewing resumes, posting jobs, analysing jobs, and making job offers, ii) Training and Development: Through numerous training programmes and development efforts, this part of the programme focuses on improving employees' knowledge, skills, and capacities. It involves leadership

development, career planning, on-going skill training, and orientation programmes for new employees, iii) Performance Management (Balamourougane, Babu & Theertha, 2019). This process involves identifying areas for improvement, assessing employee performance, providing feedback, and establishing performance expectations. Enhancing overall productivity and effectiveness is the goal, along with balancing individual and organisational goals, iv) Benefits and Compensation: Creating and managing benefit and compensation plans to draw, encourage, motivate, and retain employees is the focus of this area. The responsibilities include setting salaries, managing incentive schemes, and maintaining benefits for employees such as health insurance and retirement plans, v) Human Resource Information Systems (HRIS): HRIS uses technology to manage HR-related data, including payroll, benefits administration, employee data, and workforce analytics. It facilitates decision-making, increases data accuracy, and automates HR procedures (Vrontis, 2021).

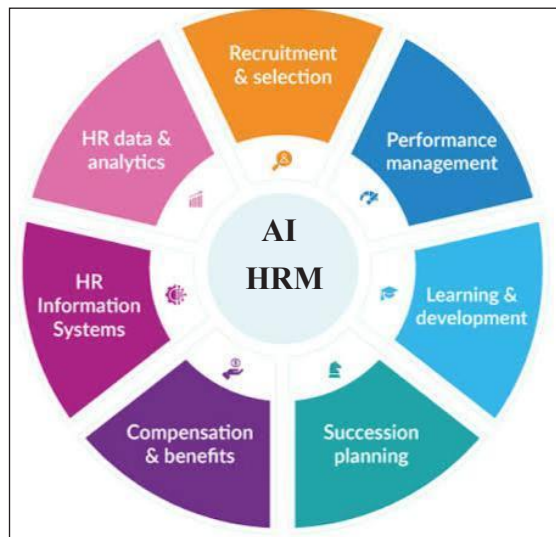


Fig. 1: AI in HRM

III. OBJECTIVE

- This study helps to understand the AI driven Human Resource Management practices and its effectivity in IBM.
- To understand the different interventions of Artificial Intelligence in Human Resource Management taken by IBM.

IV. RESEARCH METHODOLOGY

In this present study secondary data (case study method) has been used. Secondary data collected from secondary sources, which have been previously researched and discussed by researchers, and the data used to perform the analysis on the same topic in an improved way (Tewari & Pant, 2020). To conduct this study, we use case studies on AI-driven HRM practices in the company IBM. IBM's HR function department was the first to make use of artificial intelligence (AI), which means that it has gained much information and knowledge to share by providing help to others to start. In this case study, IBM summarizes the findings, which were collected by interacting HR executives who are responsible for bringing AI to the HR function at IBM. IBM HR professionals use AI, which can be applied in almost all the areas of HR, such as i) Employee engagement, i) Hiring ii) Learning iii) Compensation iv) Career management and v) HR support, these AI driven fields have been discussed below:

V. KEY FINDINGS

A. AI Empowered Employee Engagement

IBM's main objective aimed to give an interesting experience that would engage job searchers from the beginning and let them collectively come to an idea of exactly how ideal they are for positions that require their skill set (Yawalkar, 2019). Watson Candidate Assistant (WCA) is the AI technology designed by IBM that assists in recognising and resolving this difficulty. WCA, has significantly enhanced job searchers' interactions with IBM. Before the launch of AI, job seekers and employers would meet and speak for the first time during interviews after knowing about openings from online job boards, career websites, and other sources. But since AI was introduced, chatbots have enabled applicants and employers to engage in real-time, resulting to more customised application and candidate engagement processes for jobseekers. More applicants will apply when more information is produced, which will result in a far better match between job seekers.

IBM's Vice President of HR Communications, Carrie Altieri, stated that the company receives 7,000 resumes

daily and that choosing the best applicant within the given period of time is like trying to find a needle in a haystack. WCA boosted the matching of candidates to openings, doubled the Net Promoter Score, and lowered the actual time-to-hire. Within the business firewall at IBM, chatter analysis is utilised to identify the top three challenges arising from external sources. This gives suggestions specifically designed for an individual leader who enhances team member participation.

B. AI-Empowered Hiring

A strong hiring and selection process is necessary for successful recruitment in a large organization such as IBM (Ghosh, Majumder & Peng, 2023). IBM always wanted to help recruiters find the best candidates for the available job positions and give the ranking, which is the most crucial part in this department and which should be done in an efficient manner. IBM Watson Recruitment (IWR), which is a developed AI solution, helps in predicting the time needed to fill candidates and identifies candidates who are most likely to achieve success by using AI to use data about the job market and hiring history and what job roles are available for the time being, depending upon which candidates are hired.

Additionally, the information that is given in the resume, such as whether or not the applicant has led a team, can be perfectly made used by the AI algorithm to produce a prediction score. Future job performance is predicted by these scores. Most importantly, IWR ensures that employment decisions are made unbiasedly by keeping track of them. In conclusion, IBM implements and integrates AI into the hiring process, which helps to improve the experience of both the recruiters and the candidates by enabling faster and more nearly perfect hiring processes.

C. AI-Empowered Learning

The integration of AI for learning at IBM results in several outstanding and unique outcomes. IBM has used AI to transform its learning platform into a highly effective and full of features customised digital marketplace that is visited by 98% of employees. This strategy makes use of a program called IBMers, and outcomes show that 60 hours of learning are completed annually on average.

By promoting learning through appropriate channels and supporting them in developing all the abilities necessary to prepare for the company's good employment responsibilities, IBMers offer an opportunity of learning. They also launched a chatbot for learning that provided 24/7 support (Majumder, Ghosh & Polkowski, 2023).

According to Richard McColl, HR COO (IBM) in charge of Global Operations, they had already started the next phase where AI could assist employees to boost their performance and continue their growth. There will be significant developments in the future that may be depended on for both recommendations and the next best opportunity. It will be clear to employees who are successful in the job market how they must adapt to AI. Therefore, IBM's AI learning platform will expand every day and promote the growth of strong strategic skills across the company. Additionally, IBM established a statistical relationship between the total level of engagement and the employer's learning, indicating a direct correlation between learning and company productivity. Further studies have also shown that individuals who are more willing and able to learn perform well (Majumder & Dey, 2022).

D. AI-Empowered Compensation

In order to reduce the difficulty of making compensation decisions inside an organisation, IBM uses artificial intelligence (AI). IBM has created a decision support tool based on artificial intelligence (AI) that assists managers in compensation planning by preventing them from underweighting or overweighting crucial information items. The program collects external information from sources and uses a variety of data points to determine and provide recommendations. Ten thousand IBM managerial employees use the tool at the moment to assist with their compensation planning.

According to Nickle LaMoreaux, Senior Vice President and Chief Human Resources Officer, managers are unable to make decisions related to compensation without using analytics as these decisions are based only on a few data points, such as employee tenure or performance. Compensation is inaccurate if two data points are used; consequently, IBM uses at least two data points in addition to AI to properly compensate, giving employees fair compensation.

E. AI-Empowered Career Management

IBM intends all of its employees to have access to excellent career guidance and development opportunities, no matter their previous employment experience. The personal adviser Watson Career Coach (WCC), who provides career coaching to all IBM employees, suggested the idea, highlighting that the company will gain more from it. He or she (the individual) is a full-featured AI assistant who connects with employees who are thinking about various possibilities for the future or who want to advance their careers. He asks and answers questions on the present condition of the market, opportunities for career advancement, and other topics to get to know the employees.

F. AI-Empowered HR Support

IBM already has a number of chatbots that employees utilise for various HR-related tasks. Chat bots are being used by HR, for instance, to assist employees with their benefits and in making many more choices to help managers with their compensation and reward planning. These include areas that are characterised by high usage rates, limitations on time, and the need for prompt answers to user requests. Before the launch of 24/7 chatbots, IBM's chatbots were occasionally far busier and unable to handle several tasks (Majumder & Dey, 2022). IBM then made chatbots available 24/7. IBM's recently hired chatbot serves as that way. It assists with 700 questions a day and is one of IBM's busiest chatbots. However, as they make it simpler to ask for support, freshly used chatbots are now more productive. With having a minimum amount of work to support HR initiatives, IBM aims to answer employees' questions promptly and accurately with chatbots. Professionals can then use the time that is saved for handling more complicated and important concerns.

VI. IMPLICATIONS

Using AI in different areas brings important ethical issues that need to be carefully considered to ensure that it is responsible and fair. One major concern is privacy. AI applications often use big data, that can contain personal information. Without strong protections, there is a risk of privacy breaches and unauthorized access to these data. This means that strict rules and security measures

are needed to ensure that people's information is safe. Another key issue is bias. AI systems learn from data, and if the data are biased, the AI can repeat and increase these biases. This can be very harmful in places such as hiring, law enforcement, and healthcare, where unfair decisions can have vital consequences. To prevent this, it is crucial to use unbiased data to develop ways to find and fix biases in AI. Transparency is also important. People need to understand how AI makes decisions and to trust them. This means that AI systems should be clear and understandable, so people know how decisions are made. Job change is another concern. As AI and automation advance, many jobs could be affected, leading to many changes in the job market. It is important to think about how to support workers and help them adapt to new job opportunities.

Balancing the benefits of AI with these ethical issues ensures that AI development and its use are fair and transparent. This requires action to protect individuals and society. Ensuring responsible AI use means constantly considering these ethical concerns to use AI in ways that benefit everyone without causing any harm.

VII. DISCUSSIONS

In earlier days, IBM used to follow traditional HRM techniques for managing its employees. For hiring, they previously used physical job postings and conducted face-to-face interviews instead of using new and efficient techniques. Most of the training was off campus. Previously, performance reviews were performed once a year, which made it difficult for employees to receive feedback. Compensation and benefits were very much standard. Overall, IBM's HR methods were not as efficient in the past, so they finally introduced AI into their system. The implementation of AI by IBM has helped HR professionals to ease their work and faster for everyone. AI hiring has been faster and more efficient, and it is also very easy for professionals to select the right candidate for the right job role. Previously, employees were engaged only by motivation and some minimum benefits because they should give a hundred percent to work. However, after introducing the Watson candidate Assistant, employees have full experience working in the organization and are fully engaged in the organization, which will help them learn new skills and upgrade themselves for career development. IBM

also aims in providing career guidance and development opportunities to all employees without noticing the level they are working at. Previously, only a limited number of employees could obtain career development opportunities by seeing their level at which they are working. Currently, Watson Career Coach (WCC), benefits the career coaching for all the employees of IBM and will be more beneficial for the organization and employees, has been developed. AI also helps in answering questions and then solving problems for employees by using chatbots that answer all doubts and provide answers 24/7. With AI, IBM can provide assurance to everyone that they will receive fair compensation and benefits, which was previously done in a more traditional way. Overall, AI has made every bit of thing much easier and smoother for HR professionals at IBM and has also helped in developing a good work culture.

VIII. CONCLUSION

Artificial Intelligence is a new tool that is currently used by many companies to make their work easy and convenient and to save time for professionals. In this study, it is investigated the work culture of IBM, productivity through the use of AI and how well they adapted AI in HRM. Apart from that, AI, helps in decision making in talent development and enables HR professionals to make recruitment, training, and performance evaluation easier. As a whole, AI plays an integral and highly important role for HR professionals at IBM. Using AI helps in hiring the right people at the right job roles and giving them the right learning and description. It also helps to provide fair benefits to all employees and provides 24/7 support through chatbots. Overall, AI has helped the corporate world to advance the way of work and made it easier for workforce to do the tasks efficiently.

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