The Role of Artificial Intelligence in Modern Human Resource Management: A Review

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Abstract

More than anything else, artificial intelligence is crucial to the human resources sector. In order to recruit and create a competent staffing and hiring process, HR recruiters have integrated AI technologies. HR duties are anticipated to adapt in tandem with the ongoing changes in the workplace and the advancement of technology in all industries nowadays. In this article review the various study on role of artificial intelligence in modern human resource management. It concluded that AI is transforming Human Resource Management (HRM) by improving efficiency, decision-making, and employee experience. It streamlines recruitment, talent management, performance evaluation, and workplace safety while enabling data-driven insights. However, ethical concerns such as bias and job displacement must be addressed. Balancing AI automation with human empathy is crucial for its success. This review highlights AI's potential and its mediating factors, such as creativity and usability, in HRM. While AI offers significant benefits, industry-specific challenges and its evolving nature must be considered. Thoughtful and strategic AI integration will ensure ethical, effective, and sustainable workforce management in modern organizations.

Keywords; Artificial intelligence, Modern human resource management, Organizational success, Traditional human resource (HR), Business environment, Training and development, etc.

INTRODUCTION

Technology plays an important role in an industry. Since the nineteenth century, people have been replaced by robots in industrial sectors. The third industrial revolution, which saw robots replace people in many jobs, was brought on by the advent of personal computers and the internet into the workplace in the 1970s. The way organisations function is changing as a result of the increasing integration of digital technologies like artificial intelligence (AI) and machine language (ML) into routine professional responsibilities [1]. Our "ideal intelligent" device has the capacity to "perceive its environment and take actions that maximise its chance of success at some goal." An artificial intelligence (AI) agent is a machine of this kind. Artificial intelligence is a sort of intellect that robots can display, in contrast to the innate intelligence of humans [2]. The phrase "artificial intelligence" was first used in academic settings in 1956. The reduction of employee stress and strain is one of the many useful commercial uses of artificial intelligence. Companies must be able to respond to changes fast. Using an AI system may improve a company's daily operations and performance. As business pressure increased, tough bosses saw the need of AI in the workplace. AI is now present in every aspect of a company. For example, it has essentially replaced human workers in the HR department and is now in charge of all HR-related duties, including hiring, screening applicants, coordinating HR initiatives, and monitoring performance [3].

Human resource management

A company's or organizations strategic and cohesive approach to managing its workforce effectively and efficiently so that it may obtain a competitive edge is known as human resource management, or HRM. In order to support an employer's strategic goals, it is intended to optimise employee performance.

With an emphasis on processes and rules, human resource management is mostly concerned with managing people within organisations [4]. HR departments are in charge of management of employee-benefits design, hiring, training and development, performance reviews, and incentive systems, including pay and benefits administration. HR is also involved in industrial relations and organisational transformation, which involves striking a balance between organisational procedures and legal and collective bargaining obligations [5].

Ensuring that the organisation can succeed via its people is the overarching goal of human resources (HR). HR specialists concentrate on putting rules and procedures into place while managing an organization's human resource. They may focus on attracting, hiring, choosing, training, and developing staff members as well as preserving benefits or employee relations. Employee training and ongoing growth are guaranteed by training and development specialists [6]. Programs for training, performance reviews, and rewards are used to accomplish this. Employee relations addresses the issues raised by workers when rules are violated, such as in situations involving discrimination or harassment. Employee benefit management include creating pay plans, parental leave policies, employee discounts, and other perks. HR generalists or business partners are on the other end of the spectrum. These HR specialists may be labour relations representatives interacting with unionised workers or they may work in all departments [7].

The Evolution of HR: Traditional vs. Modern HR

Over the years, Human Resources has undergone a remarkable transformation, transitioning from a primarily administrative and reactive function to an active architect of organisational success. Traditional HR was incapable of cultivating a sustainable competitive advantage, as it was concentrated primarily on administrative duties, including recruitment, compliance, and employee records administration. The landscape has evolved, and Modern HR is a strategic juggernaut that supports organisations in the fast-paced, knowledge-driven economy of today [8]. By examining the primary distinctions between Traditional and Modern HR, the transition that organisations have been required to make becomes more apparent. Long-term strategies that could have generated substantial business results were frequently overlooked in traditional HR, which prioritised operational efficiency. In contrast, Modern HR acknowledges the significance of strategic planning, prioritising the development of talent, goal alignment, and agile adaptation to change in the business environment [9].

The development of technology has also played a significant role in advancing human resources. Numerous HR tasks in contemporary organisations have been simplified and improved by the use of HR technology including automation, machine learning, and artificial intelligence. These technology developments raise the bar for communication, teamwork, and participation inside the company in addition to improving the hiring, talent management, and performance review procedures [10]. In addition, the importance of empathy in the human resources area has never been greater than it is now. Since people are an organization's most precious asset, modern HR professionals know that meeting their needs, goals, and well-being is essential to the development and success of the business as a whole. By embracing empathy, HR can create more focused and caring policies that boost productivity, employee happiness, and, eventually, competitive advantage. By combining human creativity with digital intelligence to enable forward-thinking, creative organisations, this empathy and technology integration highlights the rich complexity of modern human resources [11].

Functions of Human resource management

Staffing: the hiring and selection process for staff members via networking, applications, and interviews. There are two primary elements in staffing. Employing tools like the media to draw in skilled candidates who fit the organization's criteria is the first step; managing hiring resources is the second. Employing resources allows managers to try out various tactics.

Training and Development: It is a continuous process that entails the development and training of employees who are competent and acclimated. Here, employees are perceived as being highly productive due to their motivation. this encompasses rewards, performance evaluations, and employee benefits. Appraisals, rewards, and employee benefits are all incentives that serve to attract the most talented employees.

Maintenance: includes maintaining the commitment and loyalty of the employees to the organisation. Management for employee retention entails the implementation of strategic measures to maintain the motivation and focus of employees, thereby ensuring that they remain employed and completely productive for the organization's benefit. A number of organisations expand internationally and establish more diverse teams. The responsibility of HR departments is to ensure that these teams are well-functioning and that individuals are able to communicate

across cultures and borders. In addition, the discipline is frequently involved in the merger and acquisition process, particularly for expatriates, and it may also engage in mobility management. The HR function is typically perceived as a support function that assists the business in minimising costs and reducing risk.

Role of AI on HR practices

The use of AI in HRM has grown significantly in recent years, along with its use in other domains. HR procedures now need more automation, digitisation, and agility as a result of Industry 4.0. Because AI may improve decision-making, accuracy, and efficiency in HR tasks, it has the potential to completely transform HR processes. AI has the potential to significantly affect HR in a number of important areas, including talent acquisition and recruiting [12]. In order to find qualified applicants based on predetermined criteria, AI-powered algorithms may scan resumes and job applications, saving time and effort compared to human screening. Additionally, AI can evaluate applicant data to forecast which applicants are most likely to be successful in a position, enhancing the calibre of the hiring process. The engagement and retention of employees is another area in which AI may be very important. Artificial intelligence (AI) systems may spot patterns and trends in employee data that can point to poor engagement or high turnover rates [13]. By using this information, HR professionals may take proactive steps to solve these problems, such enhancing workplace culture or putting training programs into place. AI has the potential to improve staff learning and development initiatives as well. AI systems are able to detect knowledge gaps and suggest training programs to close them by examining employee data. By tailoring learning experiences to each employee's requirements, AI-powered learning systems may enhance learning results [14].

Employee productivity measurement

AI can assist in the automation of time-consuming administrative duties, thereby allowing HR personnel to concentrate on other aspects of their responsibilities. This can result in HR personnel being able to allocate more time to duties that necessitate their expertise, thereby increasing their productivity. AI has the potential to assist in the real-time measurement of employee productivity [15]. Real-time feedback on employee productivity can be provided by AI-powered systems that analyse employee data, including the completion rate of assignments and the time spent on tasks. This data has the potential to enhance employee performance and pinpoint areas that require improvement. AI has the potential to facilitate the measurement of

employee productivity in a more objective manner. Subjective evaluations, which are conventional methods of evaluating employee productivity, may be unreliable and biassed. A more objective assessment of employee productivity can be achieved through the use of data and analytics in AI-powered systems, which make informed decisions [16].

LITERATURE REVIEW

(Priya, 2023) [17] Examine how AI is used in different HR tasks. Additionally, it attempts to investigate the many AI-related HRM potential and difficulties. According to the article's conclusion, artificial intelligence (AI) plays a critical role in carrying out the several tasks performed by the human resources department. AI can manage recruiting, performance reviews, training and development, job distribution, workload reduction, and workplace efficiency enhancement. The report will also provide a quick overview of artificial intelligence's future objectives.

(Prikshat et al., 2023)[10] An systematic literature review (SLR) of 56 articles published in 35 peer-reviewed academic journals from October 1990 to December 2021 is presented. The authors of this SLR have identified significant research gaps, which are primarily due to the unequal distribution of previous HRM(AI) research in terms of the smaller number of sector/country-specific studies, the absence of a sound theoretical base/framework, the increased focus on routine HR functions (e.g. recruitment and selection), and the significantly lower amount of empirical research. Minimal research evidence was also discovered that establishes a connection between HRM(AI) and organizational-level outcomes. We suggest a multilevel framework to address this deficit, providing a foundation for future researchers to establish connections between a variety of variables, beginning at the contextual level and progressing to HRM and organisational level outcomes. Ultimately, this framework will improve the operational and financial performance of the organisation.

(Murugesan et al., 2023)[8] A number of changes are needed to achieve Industry 4.0, notably in the Human Resource (HR) function. The capacity to handle human resources is increasingly important and offers the company a competitive edge in Industry 4.0. To meet the challenges and demands, the HR department should be more cautious and flexible. Five AI applications in HR capabilities and three components of HR preparation are the main topics of this study. An essential component of achieving sustainable development, according to the findings, is the analysis of

hierarchical organisations. Each of the five elements of AI application domains of HR supports human asset competency and adaptability. The enhancement of safety and well-being were considered essential elements of the AI use in HR.

(Orosoo et al., 2023) [4] Therefore, it is critical to analyse and evaluate the ways in which technology is impacting the human resource management sector. In an effort to bridge the gap between AI and HRM, a theory addressing six key HRM domains was developed. These fields are entwined with the possible applications of AI technology. The major objectives of this research were to better understand the challenges faced by human resources departments and to look at the use of artificial intelligence to human resource management. The study's findings demonstrated the importance of AI for a wide range of HR tasks, such as recruiting, data collection, analysis, and job satisfaction. This demonstrates how AI is playing an increasingly significant role in enhancing the effectiveness and efficiency of HRM practices.

(Sabil et al., 2023) [12] is designed to identify strategies for enhancing HRM in the context of contemporary economic development through the use of artificial intelligence (AI). The investigation will concentrate on the use of AI to improve HRM and investigate the ways in which AI can be employed to improve recruitment, training, performance management, and employee engagement. Organisations that are interested in enhancing their HRM practices through the use of AI and researchers who are researching the confluence of AI and HRM in contemporary economic development will benefit from the results of this study. Policymakers can benefit from the study's findings by identifying strategies to enhance human resource management in the context of contemporary economic development through the use of artificial intelligence (AI).

(Kharde, 2023) [18] As much as any other discipline, AI is vital to the field of human resources. In today's world, the working environment is constantly changing and technology is evolving in all disciplines. Consequently, HR functions are anticipated to evolve in tandem. These conventional HR methodologies were well-suited to the older generation; however, they are not as effective for the millennial generation. The incorporation of AI technologies can substantially enhance conventional HR methods. The system is propelled by AI, which allows employees to make decisions based on machine predictions. The AI machine is provided with employee information, employment records, remuneration, and other HR data, which facilitates the job of

HR. Attempts are made in this paper to investigate the function of AI in human resource management.

(Arslan et al., 2022) [6] intends to pay particular attention to the difficulties that are faced by human resource management (HRM) leaders and departments in modern businesses as a result of the close contact between artificial intelligence (AI), mainly robots, and human workers, particularly at the collaboration level. This creates special problems for HRM departments in modern organisations, where they must deal with employees' apprehension about working with AI, particularly in light of potential job loss and the challenging dynamics involved in establishing trust between human employees and AI-enabled robots as team members. Human resource management (HRM) personnel must also properly discuss and manage the job fulfilment expectations of human workers with their AI-enabled robot counterparts in order to preserve the collaborative spirit and future employee performance reviews.

(Srinivas, 2022) [19] By employing AI system administration, it is possible to explain current output and daily duties. Despite the increasing market pressure, even the most resolute managers have recognised the importance of artificial intelligence in the workplace. A descriptive component is present in the research paper. Data were collected from research papers, journals, websites, HR forums, and survey results, among other sources, to be used by the researcher as secondary data. The primary goal of the investigation was to investigate the role of artificial intelligence in the human resource department and to identify the challenges that HR is currently confronting. Robotics companies are capable of managing recruiting, hiring, data analysis, data processing, burden reduction, and workplace performance enrichment, as the research study concluded that AI's role is more significant in a variety of human resource functions.

(Parag Ramkrushna Bhat et al., 2022) [20] There is ongoing debate among professionals over the notion of artificial intelligence in human resource management and whether it is a boon or a bane for mankind. Concerns about job loss and increased dependence on robots and computers first made HR departments hostile to the AI system. In the end, however, things changed. HR staff now have less work to do because to technologies and strategies including computerised performance monitoring, cloud computing, management information systems, e-recruitment, and human resources analytics. This frees them up to concentrate on other organisational goals and objectives. These studies concentrate on the many advantages and disadvantages of

intelligent robots, as well as the general impact of AI on human resource management.

(Jhansi, 2022) [21] was used secondary data, which was gathered from descriptive study papers. The study employed secondary data, which was gathered from publications, research papers, websites, HR blogs, and other sources. Examining artificial intelligence's position in the HR department and comprehending its challenges was the study's main goal. According to the research report, artificial intelligence (AI) has a wider role in the human resource department. Robotics firms can manage hiring, recruiting, data collection, analysis, and reduction of working workloads while also improving workplace productivity.

(Sanyaolu & Atsaboghena, 2022) [22] outlines how artificial intelligence (AI) technology is being used in HR departments for hiring, selection, onboarding, employee retention, cost control, and general staff management. Machines can now make judgements more accurately than humans by using behavioural patterns and previous data thanks to artificial intelligence. Because of this change, all manual work has been replaced by robots, requiring HR specialists to take on greater strategic responsibilities. The difficulties in integrating AI in HRM were also explored, along with the advantages of using AI in the different HRM units. In this article, the advantages of AI for businesses looking to improve the efficacy and efficiency of their HR operations will be discussed.

(SHIVANI TIWARI, 2020) [23] In actuality, AI might have a significant impact on a huge number of workers, thus HR leaders and companies have an obligation to concentrate on the needs of their workforce and future outcomes. Emerging technology does not, in fact, totally eradicate individuals. In the end, most organisations are using AI-related hiring methods more and more based on research, but AI will be in HR everywhere soon. While hiring, training, boarding, productivity reviews, retention, and other processes may take place, most organisations frequently fall behind in integrating AI into their HR operations because of deployment costs. However, the focus here is on how people may understand and adjust to these advancements to create stability and riches.

CONCLUSION

The integration of Artificial Intelligence (AI) in Human Resource Management (HRM) is transforming traditional HR practices by enhancing efficiency, accuracy, and decision-making. AI-driven tools streamline recruitment, talent development, performance management, and

workplace safety while optimizing HR operations. However, concerns regarding bias, job displacement, and ethical considerations must be addressed to ensure responsible AI implementation. This review highlights how AI improves HR functions by automating repetitive tasks, enabling data-driven insights, and enhancing employee experiences. Organizations leveraging AI must balance automation with human judgment to maintain empathy in HR practices. Furthermore, factors such as creativity and usability influence AI's effectiveness in HRM. Despite the significant benefits, limitations such as industry-specific applications and AI's continuous evolution must be considered. Ultimately, the success of AI in HRM depends on its strategic and ethical deployment. By integrating AI thoughtfully, organizations can achieve a more efficient, data-driven, and employee-centric HR system, ensuring long-term success in workforce management.

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