International Journal of Innovative Research in Technology and Science
ISSN: 2321-1156 www.ijirts.org Volume 12 Issue 2, March 2024

A New Revolution in Green Human Resource Management (GHRM) Using Artificial Intelligence (AI)

Srashti Bijoria
School of Business Administration and Management, SAM Global University, Bhopal, India

Selection and peer review of this article are under the responsibility of the scientific committee of the International Conference on Current Trends in Engineering, Science, and Management (ICCSTEM-2024) at SAM Global University, Bhopal.

Abstract:- In the era of globalisation, organisations strive to maintain their competitive edge by staying updated with the latest information technology (IT) trends. Human resources (HR) is paramount among organisations' critical departments, encompassing sourcing, recruitment, selection, hiring, training, and employee relations management. Efficient recruitment is pivotal for organisations to secure capable employees who can contribute to long-term organisational development. Traditional recruitment methods are often laborious and paper-intensive. However, technological advancements and internet infrastructure have prompted a shift towards online recruitment, enabling organisations to streamline processes and alleviate HR workload. Data analysis is integral to the recruitment process, influencing crucial decision-making. Artificial Intelligence (AI) emerges as a promising tool for enhancing data analysis and aiding HR professionals and recruiters in making informed decisions. AI, essentially intelligent machines developed to mimic human behaviour, offers innovative methods to optimise the recruitment process within Green Human Resource Management (GHRM). This paper aims to explore the integration of artificial intelligence in GHRM's recruitment process, elucidate the rationale behind its adoption, and identify associated drawbacks. The methodology employed for this research involves a comprehensive literature review comprising conceptual papers, peer-reviewed journals, and articles.

Keywords:- Globalisation, Human Resources Management, Recruitment, Artificial Intelligence, Green Human Resource Management (GHRM)

1. INTRODUCTION

In the contemporary digital age, companies aspire to excel in innovation and global competitiveness and optimise operational efficiency by minimising workforce while maximising productivity and profitability. Consequently, companies must invest resources in training new and seasoned employees to adeptly operate modern equipment and software. One emerging technology poised to revolutionise various industries is "Artificial Intelligence (AI)," tracing its origins back to John McCarthy's seminal work, "Computing Machinery and Intelligence". The concept of "Artificial Intelligence (AI)" is relatively new within the realm of information technology, coinciding with the evolution of "green human resources" practices aimed at environmental preservation and sustainability alongside fostering corporate growth and efficiency gains. Termed as "green HRM," these strategies aim to promote the efficient utilisation of environmentally friendly resources within corporate infrastructure while advancing sustainability goals. In addition to

serving as a comprehensive platform for various human resource functions such as recruitment, selection, training, development, compensation, and performance management, AI-driven reasoning facilitates businesses orchestrating disparate frameworks and fosters environmental consciousness across these domains. Defined as "an adaptable, rational agent that perceives its environment and takes actions to maximise its chances of achieving a particular goal," AI promises to alleviate employee workloads, streamline processes, and conduct data analysis, among other capabilities. Integrating AI innovations seamlessly connects human labour with machine capabilities, propelling advancements in workforce management practices. Human resource departments across developed and developing nations increasingly leverage AI technologies to streamline recruitment, employee engagement, and talent management processes. This adoption has led to significant cost reductions, enhanced candidate selection precision, and, most notably, reduced turnaround time for recruitment procedures.

Recruitment

Recruitment, the process of sourcing and attracting qualified candidates, is the cornerstone of human resource management. Edwin B. Flippo's definition of recruitment underscores its importance in fulfilling organisational staffing needs. Effective recruitment involves leveraging various channels to attract diverse talent pools. HR managers play a critical role in aligning recruitment efforts with organisational objectives. Leveraging technology streamlines the initial stages of recruitment, allowing HR professionals to focus on strategic decision-making and candidate evaluation.

Artificial Intelligence

Defined as the science and engineering of creating intelligent machines, AI revolutionises diverse fields by simulating human cognitive processes. From automating routine tasks to enabling complex decision-making, AI offers unprecedented potential for efficiency and innovation. John McCarthy's foundational work laid the groundwork for AI's evolution, shaping its applications across industries. Encyclopedic definitions elucidate AI's capacity to perform tasks traditionally associated with human intelligence. While AI streamlines operations, human oversight remains crucial for verification and adaptation in rapidly evolving environments.

This reorganisation aims to enhance coherence and clarity, facilitating a smoother transition between sections and a clearer presentation of ideas.

2. LITERATURE REVIEW

Heene (1997) highlights the significance of competence-based models as effective HR tools for organisations fulfilling their personnel requirements. This model aids in recruiting, planning, and developing applicants. G. Liddon (2006) defines the competence model as a framework encompassing knowledge, skills, capabilities, and behaviours necessary to execute an organisation's job roles. By adopting a competence-based approach, organisations align core competencies with business strategies to enhance productivity and achieve desired outcomes. These methods inform recruitment and selection processes, performance management, training and development initiatives, and career-oriented employee engagement strategies. Geetha R. and Bhanu Sree Reddy (2018) investigate the influence of artificial intelligence (AI) on hiring practices. Their study aims to explore AI's impact on

recruitment processes within businesses. The researchers utilise secondary data from various sources such as websites, journals, and newspapers to analyse alternative approaches for employing individuals through AI. Murgai (2018) delves into the implications of AI on HR management, specifically focusing on hiring, selection, employee retention, and performance evaluations. Through secondary data analysis, the study evaluates the application and scope of AI in various facets of human resource management. Raviprolu Anjana (2017) examines the involvement of artificial intelligence in the hiring process and explores different methodologies and approaches utilised therein. Employing secondary data sources, the researcher investigates the multifaceted impact of AI on hiring practices. Jain S. (2017) explores the transformative influence of AI on business operations, particularly in human resources management. The research investigates how AI reshapes various management functions, including HR, marketing, finance, and manufacturing. The study concludes that HR managers can leverage AI technology across diverse HR activities such as recruitment, selection, training, development, compensation, and rewards management. Ruby Merlin and Jayam R. (2023) analyse the collaboration between humans and machines in HR management roles, particularly focusing on repetitive tasks using AI and ML (Machine Learning). Beyond screening, sourcing, and recruiting, the study examines HR operations such as performance management systems, training, learning, and development, highlighting the transformative potential of AI and ML technologies.

3. METHODOLOGY

This paper adopts a descriptive approach to study the integration of Artificial Intelligence (AI) in the recruitment process within Green Human Resources Management (GHRM). The researcher primarily relies on secondary data sources, including newspapers, journals, theses, websites, case studies, reports, and magazines, to gather relevant information and insights.

Objectives of the Study

The objectives of this study are as follows:

1. To examine the recruitment process using artificial intelligence in green human resources management.
2. To elucidate the reasons for choosing Artificial Intelligence in Green Human Resources Management.
3. To identify drawbacks associated with using Artificial Intelligence in the recruitment process in GHRM.

Recruitment Process with Artificial Intelligence in GHRM

Artificial Intelligence leverages machine capabilities to streamline tasks, reducing human workload. The recruitment process in Green Human Resource Management (GHRM) with the integration of Artificial Intelligence involves several key steps shown in Figure 1:

1. Green Job Posting: AI assists in creating job postings that emphasise eco-friendly aspects of the role and posts jobs on platforms known for their environmental focus.
2. Smart Resume Sorting: AI scans resumes to identify candidates with skills relevant to green practices and selects resumes reflecting a history of environmentally friendly work.
3. Chatbot Assistance: Chatbots, powered by AI, respond to candidate queries about the company's green efforts and efficiently gather information from candidates.

4. Predicting Success: AI analyses past hiring data to predict candidates likely to align with the company's green goals and aids in shortlisting environmentally conscious candidates.
5. Video Interviews Analysis: AI examines video interviews to assess candidates' job-related skills and environmental consciousness through verbal and non-verbal cues.
6. Green Skills Check: AI uses tailored assessments to evaluate candidates for specific green skills aligned with the company's eco-friendly values.
7. Automated Reference Checks: AI automates reference checks, focusing on past experiences related to sustainable practices to provide a comprehensive view of a candidate's history with eco-friendly initiatives.
8. Eco-Friendly Job Offers: AI recommends environmentally responsible compensation packages and benefits, such as flexible work arrangements or sustainable commuting options.
9. Digital Onboarding: AI facilitates paperless onboarding with digital materials and introduces new hires to the company's commitment to sustainability.
10. Continuous Learning: AI recommends green certification courses and ongoing employee training programs, tracking progress and suggesting personalised development plans aligned with sustainability goals.
11. Performance Monitoring: AI-driven analytics track employee performance, focusing on contributions to green initiatives and generating reports on the environmental impact of HR processes and employee practices.
12. Feedback and Improvement: AI gathers feedback from candidates and employees to enhance the recruitment process and overall green HR practices.

This methodology highlights the integral role of AI in each stage of the recruitment process within GHRM, emphasising the importance of finding and retaining employees who share the company's commitment to environmental responsibility.

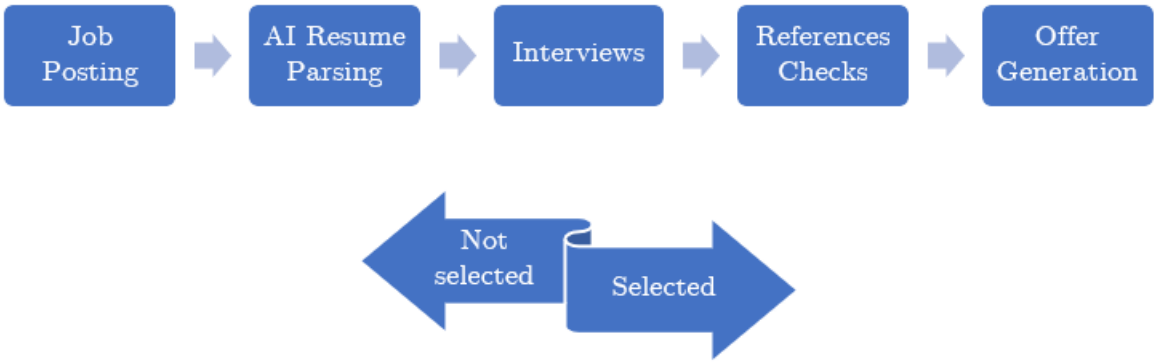

Figure 1. The recruitment process with Artificial Intelligence

4. REASONS FOR CHOOSING ARTIFICIAL INTELLIGENCE IN GREEN HUMAN RESOURCES MANAGEMENT

Artificial intelligence (AI) has significantly transformed operations within the Green Human Resources department, substantially benefiting organisations. By organising data sets and

aligning candidate profiles with job requirements, AI streamlines processes, reduces operational costs, and enhances overall efficiency. The following justifications elucidate why businesses opt to integrate AI into their human resources practices:

1. Displaying the Correct Candidate: AI tools facilitate candidate interactions by addressing their queries through chatbots, ensuring a seamless application process aligned with organisational requirements.
2. Better Integration of Analytics: AI aids HR in screening candidates more efficiently, analysing job profiles, and aligning them with organisational needs, resulting in improved recruiting efficiency and enhanced productivity.
3. Increased Recruiting Quality: Dividing the recruitment process into multiple rounds with AI enables HR to collect comprehensive data from candidates, facilitating a closer and more effective evaluation of each applicant.
4. Candidate Engagement: AI automates acknowledgement of candidate applications, ensuring prompt responses and maintaining positive candidate experiences throughout recruitment.
5. Candidate Re-engagement: AI tools inform candidates about their application status and potential opportunities within the organisation, fostering continuous engagement and communication.
6. Automation and Unbiased Decision-making: AI minimises bias in decision-making processes by autonomously scanning applicant pools and evaluating qualifications, leading to more objective and efficient candidate selection.
7. Employee Motivation and Development: AI enables personalised learning and training programs, allowing employees to enhance their skills at their own pace, leading to increased motivation and professional growth.
8. Fair Treatment to All Employees: AI facilitates the customisation of organisational policies and procedures, ensures consistent communication with employees, and enables fair treatment and resolution of grievances through virtual interactions and feedback mechanisms.
9. Organisational Benefit: AI gives organisations insights into employee emotions and performance, enabling proactive measures to enhance employee well-being, strengthen organisational-employee relationships, and foster greater commitment and engagement.

These reasons underscore the transformative impact of AI on various aspects of human resources management, highlighting its role in driving efficiency, fairness, and organisational success.

5. DRAWBACKS OF USING ARTIFICIAL INTELLIGENCE IN THE RECRUITMENT PROCESS IN GHRM

While integrating Artificial Intelligence (AI) into recruitment processes within Green Human Resource Management (GHRM) offers numerous advantages, such as enhanced applicant matching, decreased bias, and higher efficiency, it also presents several drawbacks and challenges:

1. Data Bias: AI algorithms heavily rely on historical data to make decisions. Suppose the historical data used to train AI models contain biases related to gender, race, age, or other factors. In that case, the AI system may perpetuate these biases, resulting in discriminatory hiring practices.
2. Lack of Transparency: AI algorithms can be complex and opaque, making understanding

how they arrive at their decisions challenging. This lack of transparency poses challenges in GHRM, where fairness, accountability, and ethical considerations are paramount.

3. Loss of Human Touch: While AI streamlines and automates many aspects of the recruitment process, it may also lead to a loss of human interaction. Candidates may feel disconnected or undervalued if machines mediate their entire recruitment experience.
4. Skills Mismatch: AI systems may not accurately assess a candidate's skills or cultural fit within a green organisation. They might prioritise certain qualifications or experiences over others, overlooking candidates who possess valuable intangible qualities or a strong commitment to sustainability.
5. Environmental Impact: The computational resources required to power AI systems, especially those involving extensive data processing and machine learning, can contribute to increased energy consumption and carbon emissions, contradicting the goals of GHRM to reduce environmental impact.
6. Limited Adaptability: AI systems may struggle to adapt to changing trends or unforeseen circumstances in the job market or within the organisation. They may not effectively respond to emerging green technologies or shifting sustainability priorities.
7. Legal and Regulatory Compliance: Employers using AI in recruitment must navigate a complex landscape of laws and regulations governing data privacy, discrimination, and fairness. Non-compliance with these regulations can result in legal liabilities and damage the organisation's reputation.

Organisations leveraging AI in GHRM should prioritise responsibility, openness, and continuous assessment of the technology's impact on hiring practices to mitigate these negative effects. Additionally, they should complement AI-driven procedures with human monitoring and intervention to ensure equity, justice, and alignment with green HR goals.

5. CONCLUSION

Artificial intelligence (AI), one of the most cutting-edge technologies, operates like the human brain and rapidly permeates various fields, including green human resources management. Since its inception into green HRM, recruitment, the cornerstone of any business, has garnered significant attention and innovation. AI has revolutionised the recruitment process, offering numerous advantages over traditional methods. These include higher recruiting quality, expedited candidate screening, enhanced analytics integration, efficient automation, and unbiased decision-making. While the benefits of AI in green HRM are undeniable, there are also hurdles to overcome. Despite the challenges faced by this technology, many organisations are making concerted efforts to integrate AI into green HRM practices due to the substantial benefits it offers. The advantages outweigh the current difficulties, prompting businesses to embrace AI-driven solutions in their HR operations. As advancements in AI technology continue to unfold, there is potential for it to provide effective and efficient solutions for HR and recruitment processes. Addressing the challenges posed by AI in green HRM requires the development of new machine learning algorithms, pattern recognition techniques, user-friendly platforms, and enhanced system security. Evidently, "Artificial Intelligence

is poised to shape the future of Human Resources (HR)" in the years to come, offering transformative possibilities for recruitment and HR management practices.

REFERENCES

[1]. Geetha, R., & Bhanu Sree Reddy, D. (2018). Recruitment through Artificial Intelligence: A Conceptual Study. *International Journal of Mechanical Engineering and Technology (IJMET), 9*(7), 63-70.

[2]. Kaur, P. (2018). E-recruitment: A conceptual study. *International Journal of Applied Research, 1*(8), 78-82.

[3]. Acikgozy, Y. (2019). Employee recruitment and job search: Towards a multilevel integration. *Human Resource Management Review, 29*, 1-13.

[4]. Chapman, D. S., & Webster, J. (2003). The use of technologies in the recruiting, screening, & selection processes for job candidates. *International Journal of Selection and Assessment, 11*(2-3), 113-120.

[5]. Sutherland, M., & Wocke, A. (2011). The symptoms of and consequences of selection errors in recruitment decision. *South African Journal of Business Management, 42*(4), 23-32.

[6]. Schemerhorn, J. R. (2001). *Management updated*. New York: John Wiley and Sons Inc.

[7]. Storey, D. J. (n.d.). Exploring the link among small firms, between management training and firm performance: A comparison between the UK and other OECD countries. *The International Journal of Human Resource Management, 15*(1).

[8]. Cappelli, P., Tambe, P., & Yakubovich, V. (2018). Artificial Intelligence in Human Resource Management: Challenges and a Path Forward. *SSRN Electronic Journal*.

[9]. George, G., & Thomas, M. R. (2019). Integration of Artificial Intelligence in Human Resource. *International Journal of Innovative Technology and Exploring Engineering (IJITEE), 9*(2), 5342-5345.

[10]. Pandey, S., & Khaskel, P. (2019). Application of Artificial Intelligence in Human Resource Management and Gen Y's Reaction. *International Journal of Recent Technology and Engineering (IJRTE), 8*(4), 4796-4800.

[11]. Breaugh, A. J. (2013). Employee recruitment: Current knowledge and important areas for future research. *Human Resource Management Review, 18*, 103-118.

[12]. Wall, T. D., & Wood, S. J. (2005). The romance of human resource management and business performance and the case for by science. *Human Relations, 58*(4), 429-462.

[13]. Scott Morton, M. (1991). Introduction. In M. S. Morton (Ed.), *The Corporation of 1990s: Information Technology and Organizational Transformation* (pp. 3-26). New York University Press.

[14]. Ernst & Young LLP. (2018). *The new age: artificial intelligence for human resource opportunities and functions*.

[15]. McCarthy, J. (1998). What is artificial intelligence?

[16]. Murgai, A. (2019). Role of Artificial Intelligence in Transforming Human Resource Management. *International Journal of Trend in Scientific Research and Development (IJTSRD), 2*(3), 877-881.

[17]. PricewaterhouseCoopers. (2017). Artificial Intelligence in Human Resources (HR) is a Brainer. Retrieved from https://www.pwc.at/de/publikationen/verschiedenes/artificial-intelligence-in-hr-a-no-brainer.pdf

[18]. Entrepreneur. (n.d.). Evolution of Artificial Intelligence in Human Resource (HR): Innovations & Unmet Challenges. Retrieved from https://www.entrepreneur.com/article/320555

[19]. Yoh. (2020). The Organizational Challenges of Artificial Intelligence in your Recruitment Process. Retrieved from (https://www.Yoh.com/blog/TheOgranizational-Challenges -of- implementing -ai-for-recruitment)

[20]. UpGrad. (2020). Top 7 Challenges in Artificial Intelligence in 2020. Retrieved from (https://www.upgrad.com/blog/top-challenges-in-artificial-intelligence/)

[21]. Recruiter.com. (n.d.). Pros and Cons of Using AI in Recruiting. Retrieved from (https://www.recruiter.com/recruiting/pros-and-cons-of-using-ai-in-recruiting/)