

# Artificial Intelligence in Talent Acquisition: A Paradigm Shift in HRM Practices

Chirag Harchandani

Student, BBA, St Xavier's College Jaipur, Rajasthan, INDIA.

Corresponding Author: [chiragharchandani51@gmail.com](mailto:chiragharchandani51@gmail.com)



[www.sjmars.com](http://www.sjmars.com) || Vol. 4 No. 1 (2025): February Issue

Date of Submission: 10-01-2025

Date of Acceptance: 21-01-2025

Date of Publication: 05-02-2025

## ABSTRACT

The birth of artificial intelligence was between 1950-1956 but AI in HRM practices was used first in the 2000s. This rapid advancement of AI has significantly transformed Human Resource Management Practices. AI-based systems currently help HR automate a large segment of repetitive tasks in processes such as talent screening, hiring, engaging, re-engaging, employee relations, onboarding, etc, which used to be a long and hectic task before the introduction of automated tools. Nevertheless, these automated practices raise ethical concerns about bias, transparency, and how AI may undermine human judgment. The focus of this paper is to discuss and analyze the present scenario of AI in the field of HR. It has suggested that AI has the potential to optimize HRM practices leading to higher efficiency and cost-cutting, while also exposing several other challenges and risks such as data privacy and security, job disarticulation, and diminished autonomy for employees. By doing a real-world experiment on a normal and ATS-friendly resume and reviewing case studies such as an ATS rejecting a company's own manager, this research investigates the balance between AI efficiency and human judgment.

**Keywords-** Artificial Intelligence, Talent Acquisition, Recruitment, HRM Practices, AI in HR.

## I. INTRODUCTION

AI refers to a range of technologies that allow computers to perform tasks that would conventionally require human cognition and decision-making (Tambe et al., 2019). Artificial intelligence (AI) is among the most influential technologies changing the labour market (Huang & Rust, 2018). It is also estimated that AI can have negative consequences, such as eliminating over 45% of all jobs (Berg, Buffie, & Zanna, 2018) and increasing social inequality.

## II. A PARADIGM SHIFT IN HRM

Employing the proper individuals was the primary focus of businesses' talent management efforts. The process was very reactive, with recruiters concentrating on finding the "best fits" for open jobs (both new ones created by company expansion and old ones formed by organizational exits) and executive succession planning at higher senior levels. Little research has been done on the relationship between talent and company strategy. However, HR developed into a strategic partner as businesses realized how important their personnel were to accomplishing their goals. As a result of this change, HR went from transactional to transformational, with a focus on acquiring, developing, and retaining talent. This transition was further sped up by the introduction of technology, which allowed HR to use data analytics for better decision-making, engage employees through digital platforms, and expedite procedures.

AI in HRM is a topic beyond the field of just Human Resources because of its interdisciplinary nature, i.e., the development of AI-based HR tools depends on progress in IT fields, while implementations of such AI tools and consequences of AI implementations rely on knowledge from social science.(Priksht et al.,2023)

Human Resource Management practices have undergone many changes in recent years, especially with the advancement of Artificial Intelligence and automated tools. Organisations have been increasingly adopting AI tools for talent management. From resume screening to employee engagement, AI tools have increased efficiency, reduced costs, and streamlined HR processes.

### **III. ETHICAL CONCERNS SURROUNDING AI**

With the use of AI, the daily tasks will be much quicker, but there are a lot of elemental ethical concerns along with that. One of the major issues with the application of AI involves its lack of emotional intelligence and transparency in the decision-making processes, which itself is known as the black box problem. This issue makes it challenging to understand why some resumes are selected and some are rejected.

#### **Research Aim**

The purpose of creating a paper on AI in HR is complex and includes several important aims. First and foremost, this type of paper seeks to offer a thorough grasp of how AI affects HR procedures while illuminating the revolutionary possibilities it presents for contemporary labour management. It will also evaluate the effects of AI on HRM and look at the opportunities, risks, and difficulties related to its application. In order to shed light on the possible effects of AI on HRM, the paper reviews and synthesises the current status of AI in HRM based on a thorough literature analysis. It also examines the following:

- Ethical challenges posed by AI include biases and inaccuracies.
- Case studies illustrating the potential pitfalls and successes of AI in HR.
- Recommendations for balancing AI's efficiency with ethical considerations in talent management.

### **IV. LITERATURE REVIEW**

#### **Historical Context of Technology in Human Resource Management**

This is not a recent development, but a process of gradual integration of technology in the field of HR. The transition from computer-based record-keeping systems to sophisticated algorithms allowed the evolution of machine learning in the 2020s and was done to achieve the utmost efficiency in organization and decision-making.

#### **Technological Milestones in Human Resources**

- 1970s-1980s: The advent of computerized HR management systems
- 1990s: Integration of enterprise resource planning software
- 2000s: Cloud-based HR management platforms
- 2010s-2020s: AI and ML-enabled talent management solutions

#### **AI in HR**

Artificial Intelligence (AI) is transforming the field of Human Resources (HR), revolutionizing how organizations manage their workforce(Chandratreya, A.2024). Using AI for Talent Management (TM) entails using AI methods and resources to maximize every stage of the employee lifecycle, from hiring and selection to training and engagement. Using AI in TM can improve decision-making, modernize hiring procedures, and facilitate individualized staff development(Khan, M. R. 2024).

In order to boost efficiency and improve the calibre of staff work, artificial intelligence is changing how businesses now manage their workers and create human resource planning. Major trends are clearly emerging due to the rapid changes in HR technology, including privatization, where there is a real opportunity to move away from the way HR programs were introduced in the past.(Abdeldayem &Aldulaimi, 2020)

### **V. ETHICAL CONCERNS**

Despite these perks, the debate on fairness and bias in AI has risen. Research by (Obermeyer et al. 2019) showed that AI algorithms generally mirror the biases of training data. This may lead to discrimination on aspects of gender, race, and socioeconomic status. Furthermore, the opacity of AI decisions means that it is difficult to hold systems accountable. This section will examine the various challenges associated with AI in HRM.

**Transparency:** A critical area of concern is the transparency of AI systems. Employees often find the decision-making processes of AI opaque, leading to a lack of understanding of how certain outcomes are derived.(Yanamala 2020)

**Data Privacy:** In reporting on a complaint to the Federal Trade Commission (FTC) by the Electronic Privacy Information Center (EPIC), The Washington Post (Harwell, November 6, 2019) cited several problems with artificial intelligence systems in the hiring process: (a) Candidates are not provided information about their scores, and (b) they are unaware that their personal data are being used for evaluation purposes.(Tippins et el 2021)

### ***ATS in Recruitment***

According to the results from research (Rodriguez, J., 2022), 90% of Fortune 500 companies use Applicant Tracking Software. AI-driven Application Tracking Systems are supposed to ease the application process for both candidates and employers. However, most ATS designs are biased toward the employers.(Vaishampayan et al. 2023) Job seekers spend much time and effort preparing applications only to have their resumes rejected by an AI model without any recruiter paying attention to them. Many providers of AI technology for hiring claim that their tools are free from bias. However, many providers only make vague claims about bias-free hiring", "full transparency" or "objective hiring" without any explanation on how they achieve this. What goes into the algorithm is often not displayed. (Fiegele, 2021)

### ***The Psychological Impact on Candidates***

The use of AI in recruitment impacts job seekers. A rejected candidate at the level of ATS tends to feel frustrated and demoralised, particularly if he believes himself to be the right fit for the position. Such rejection will also create an image of unfairness against AI-based systems. Moreover, no feedback from the AI systems results in not understanding and thus cannot improve his application. Applicants usually use impression management in job interviews with human interviewers in order to present themselves as suitable for the given vacancy and organization (Chen & Lin, 2014).In automated job interviews, no human cues are available because it is basically unclear how impression management can be used in the face of AI, resulting in an expectation of reduced control and reduced opportunities to perform.(Wesche & Sonderegger.2021)

## **VI. METHODOLOGY**

This research uses a mixed-method approach, which will include qualitative case studies, real-life examples, and a practical experiment:

1. Case Study Analysis: Notable cases of incidents that resulted in AI-driven HR practices with ethical or operational challenges.
2. Real-Life Examples: Review of news reports and academic articles on AI in talent management.
3. Experiment: Conducting a controlled experiment on comparing the effectiveness of a standard resume versus an ATS-optimized resume.

### ***Case Study: Amazon's AI Recruitment Tool Which Didn't Like Women.***

According to reports(Dastin,2022) from 2014, Amazon established a team tasked with developing a tool to assess job applicants' resumes that incorporated natural language processing and machine learning to identify the best candidates suited for specific job roles. Once rolled out, this software would utilize advanced AI algorithms to recognize key characteristics from the resumes of successful candidates over time, then search for similar indicators in the resumes submitted for evaluation. This tool would subsequently score candidates on a scale of 5 stars, similar to the product rating system used by Amazon, based on how closely they matched the profiles of previously successful candidates. By the end of 2014, this experimental tool was widely adopted within the company, and many employees depended heavily on its efficiency in saving considerable time. (Kodiyan,2019)

By 2015, it came to the company's attention that for technical positions such as software developers and architects, the ratings were not applied in a gender-neutral manner, their new recruiting system did not like women. This is due to the fact that Amazon's computer models were trained to screen candidates by looking for trends in resumes that were sent in over a ten-year period. The majority were from men, reflecting the predominance of men in the tech sector. This inadvertently biased training data caused the algorithms to establish negative associations with resumes that featured terms such as "women's," as in "women's chess club captain." It was also reported (Dastin,2022) that the engineers found instances where the system penalized graduates from two all-women's colleges. These revelations prompted Amazon to revise its algorithms to ensure neutrality in that aspect.

### ***Discussion***

This case is a stark reminder that AI is only as good as the data it learns from. While automation in hiring can save time and improve efficiency, it also has the potential to amplify biases. Amazon's experience shows that technology isn't inherently neutral, it reflects human choices, past and present. This is why companies must take responsibility for the ethical implications of AI-driven decisions. Businesses must stop blindly trusting algorithms and treat AI as a tool that requires careful oversight, regular audits, and diverse training data. Efficiency is just part of the equation; it needs to be balanced with fairness—because hiring the right talent isn't just about who fits a pattern but who will bring value, diversity, and fresh perspectives to the table.

### ***Other Real-Life Example***

Company fires HR team after manager's CV is auto-rejected within seconds. (Times Of India, 2024)

After a manager learned that their automated system had unintentionally rejected all job applications, including his own, a whole HR staff was fired in a shocking turn of events. (Desk, T. L. 2024) This event brought to light a serious weakness in the hiring procedure, where a dependence on technology had disastrous results. Over the course of three

months, the manager, who posted about his experience, became increasingly frustrated with the HR department's failure to locate competent applicants. He had been keeping a careful eye on the hiring process, but each time he asked about the status of a candidate, he was informed that some possible hires had failed the preliminary screening. The manager submitted a revised version of his resume under a new name and made a fake email in order to conduct an additional investigation. Alarming, he too received an auto-rejection email, reinforcing his concerns about the hiring process.

A straightforward but expensive mistake in the application tracking system (ATS) was the source of the issue. The HR team had set up the system to search for AngularJS, an out-of-date and discontinued version of Angular, rather than candidates with experience in Angular, a contemporary web framework. Due to this crucial misunderstanding, all eligible applicants who were not knowledgeable about the unrelated framework were automatically rejected. Instead of streamlining the hiring process, the applicant tracking system (ATS) has turned into a roadblock for prospective employees. This automated rejection mechanism has frequently been criticized for being overly strict, leading to the exclusion of many eligible candidates because of little inconsistencies in their applications.

**Discussion**

It highlighted the dangers of excessive reliance on automated hiring systems without checks. While the technology may bring in some efficiencies, it has to be executed prudently so that it does not cause inefficiencies that can undermine the hiring process. In the instant case, the ATS failure has not only wiped out consideration for many potentially qualified individuals but has also led to the firing of an entire HR team, drawing attention to the many serious implications of improper configuration in the real world. Moving forward, companies must strike a careful balance between automation and human judgment with technology serving as an aid, not barring in spotting the right talent. Very important since they have been warranted by the parties involved.

**Experimental Design: ATS Resume Screening Investigation**

This experiment assessed the effects of ATS-friendly resumes on job application responses by comparing two different formats that have been sent to the same company.

**Experiment Objectives**

- Getting an interview call for an internship by using ATS friendly resume.
- Demonstrate the impact of resume formatting on AI screening.
- Evaluate the effectiveness of ATS-optimized resumes.
- Highlight potential systemic biases in automated screening.

**Methodology**

The company chosen for the experiment was from Jaipur. Two resumes A and B were taken into consideration for applying to the company for an internship through Internshala. Both resumes were optimized in terms of content and skillset respectively according to the job description.

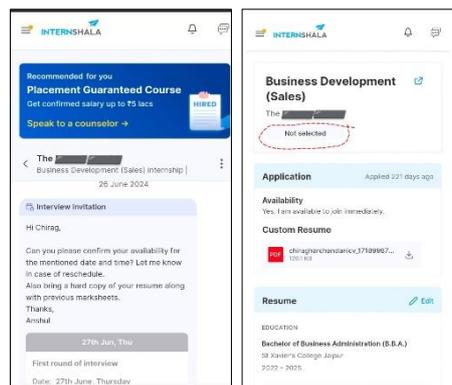
The difference between Resume A and Resume B was mainly in their different formats as well as ATS compliance:

- Resume A was prepared using a normal standard template and was not screened through any of the ATS (Applicant Tracking System) resume checkers and grading tools.
- Resume B was created using a "Free ATS-friendly resume template," and it underwent further modification as it was run through open-source AI-powered ATS checking tools. Relevant changes were made to improve its ATS score.

Both of these resumes were submitted to the company on two different dates:

- Resume A was submitted on June 23, 2024, and it received a rejection message on June 24, 2024.
- Resume B was submitted on June 24, 2024, and it received an acceptance message on June 26, 2024, followed by an interview call.

The first Image Shows that resume A was rejected and the Second Image shows that resume B was accepted.



## VII. RESULTS & DISCUSSIONS

Both resumes had equal amounts of skills and equal amounts of achievements written in them. The difference was that an AI tool (ATS resume checker) was used to bypass another AI tool (Application tracking system). This fun experiment showed how small adjustments can lead to big differences in an automated system, thus giving rise to questions about the fairness and legitimacy of processes such as these.

### **Operational Benefits**

These are some of the positive views offered by AI even amid ethical hurdles: Giving reasonable independence to HR for increasing its strategic initiative by removing repetitive functions. AI-made predictive analytics to refine the decision-making process and AI tools to assist with the continuous functioning of HR processes in large setups.

### **Balancing Efficiency and Ethics**

To realize the potential of AI with lower risks, organizations are advised to take the following steps:

- Carry out regular audits on AI systems to identify and eliminate biases.
- Synthesize the AI processes with controls emerging from human involvement for fairness.
- Train the human resources executives to interpret AI outputs in a discerning fashion.

## VIII. CONCLUSION

The study's primary finding is that, although AI in hiring is still a relatively new use, it is rapidly expanding across HRM. AI-powered tools such as ATS, predictive analysis, and chatbots enhanced efficiency, lowered hiring times, and provided data-driven insights.

The case study of Amazon's AI-powered recruitment tool serves as a cautionary tale, highlighting the risks of training AI on historically biased datasets. As the system is technically sophisticated, it inadvertently discriminated against women due to earlier recruitment practices, which led to its discontinuation.

At the same time, the experiment involving ATS-friendly resumes illustrates how AI screening sometimes emphasizes format over actual skills, questioning fairness in these systems. Whereas AI does increase efficiency in HRM, it can be understood as a complementary tool that cannot substitute for human judgment. Organizations have to balance AI with human oversight to ensure ethical, unbiased, and effective talent management.

The ethical adoption of AI will determine whether AI is a revolutionary turn of HR professionals or a threat that taints fairness and human judgment in the workplace. The proper adoption of AI enables firms to utilize AI powers for equitable and inclusive talent management strategies.

## REFERENCES

- [1] Huang, H., & Rust, R. T. (2018). Artificial Intelligence in Service. *Journal of Service Research*. <https://doi.org/10.1177/1094670517752459>
- [2] Vedapradha, R., Hariharan, R., Praveenraj, D. D. W., Sudha, E., & Ashok, J. (2023). Talent acquisition-artificial intelligence to manage recruitment. *E3S Web of Conferences*, 376, 05001. <https://doi.org/10.1051/e3sconf/202337605001>
- [3] Tambe, P., Cappelli, P., Yakubovich, V., 2019. Artificial intelligence in human resources management: challenges and a path forward. *Calif. Manag. Rev.* 61 (4), 15–42. <https://doi.org/10.1177/0008125619867910>
- [4] Hanley, D. (2018). Comment on “Should we fear the robot revolution? (The correct answer is yes)” by Andrew Berg, Ed Buffie, and Felipe Zanna. *Journal of Monetary Economics*, 97, 149-152. <https://doi.org/10.1016/j.jmoneco.2018.05.012>
- [5] Prikshat, V., Islam, M., Patel, P., Malik, A., Budhwar, P., & Gupta, S. (2023). AI-Augmented HRM: Literature review and a proposed multilevel framework for future research. *Technological Forecasting and Social Change*, 193, 122645. <https://doi.org/10.1016/j.techfore.2023.122645>
- [6] Chandratreya, A. (2024). AI in HR: A Comprehensive Analysis and Framework for Success. *International Journal of Scientific Research in Engineering and Management*, 8(8).
- [7] Khan, M. R. (2024). Application of artificial intelligence for talent management: Challenges and opportunities. *Intelligent Human Systems Integration (IHSI 2024): Integrating People and Intelligent Systems*, 119(119).
- [8] Abdeldayem, M. M., & Aldulaimi, S. H. (2020). Trends and opportunities of artificial intelligence in human resource management: Aspirations for public sector in Bahrain. *International journal of scientific and technology research*, 9(1), 3867-3871.
- [9] Obermeyer, Z., Powers, B., Vogeli, C., & Mullainathan, S. (2019). Dissecting racial bias in an algorithm used to manage the health of populations. *Science*, 366(6464), 447-453.
- [10] Yanamala, K. K. R. (2020). Ethical challenges and employee reactions to AI adoption in human resource management. *International Journal of Responsible Artificial Intelligence*, 10(8).

- 
- [11] Harwell, D. (2019). Rights group files federal complaint against AI-hiring firm HireVue, citing 'unfair and deceptive' practices. *The Washington Post*.
- [12] Tippins, N. T., Oswald, F. L., & McPhail, S. M. (2021). Scientific, legal, and ethical concerns about AI-based personnel selection tools: a call to action. *Personnel Assessment and Decisions*, 7(2), 1.
- [13] Rodriguez, J. (2022) The Top 9 Free and Open Source Applicant Tracking Software. Available at: <https://www.goodfirms.co/applicant-tracking-software/blog/the-top-9-freeand-open-source-applicant-tracking-software> (Accessed 30.12.2022).
- [14] Vaishampayan, S., Farzanehpour, S., & Brown, C. (2023, October). Procedural justice and fairness in automated resume parsers for tech hiring: Insights from candidate perspectives. In *2023 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)* (pp. 103-108). IEEE.
- [15] Fiegele, T. (2021). *HIRED OR REJECTED BY AN ALGORITHM* (Doctoral dissertation, Leopold-Franzens-Universität Innsbruck).
- [16] Chen, C. C., & Lin, M. M. (2014). The effect of applicant impression management tactics on hiring recommendations: Cognitive and affective processes. *Applied Psychology*, 63(4), 698-724.
- [17] Wesche, J. S., & Sonderegger, A. (2021). Repelled at first sight? Expectations and intentions of job-seekers reading about AI selection in job advertisements. *Computers in human behavior*, 125, 106931.
- [18] Dastin, J. (2022). Amazon scraps secret AI recruiting tool that showed bias against women. In *Ethics of data and analytics* (pp. 296-299). Auerbach Publications.
- [19] Kodiyan, A. A. (2019). An overview of ethical issues in using AI systems in hiring with a case study of Amazon's AI based hiring tool. *Researchgate Preprint*, 1-19.
- [20] Desk, T. L. (2024, October 1). Company fires HR team after manager's CV is auto-rejected within seconds, here's what happened. *The Times of India*. <https://timesofindia.indiatimes.com/life-style/relationships/work/company-fires-hr-team-after-managers-cv-is-auto-rejected-within-seconds-heres-what-happened/articleshow/113828164.cms>