

IMPACT OF AI IN HUMAN RESOURCE MANAGEMENT (HRM), FOCUSING ON RECRUITMENT AND SELECTION

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Integrating Artificial Intelligence (AI) in Human Resource Management (HRM) has transformed traditional HR practices, enhancing efficiency and decision-making through data-driven insights. This study investigates the impact of AI on HRM practices, specifically focusing on its influence on recruitment processes and the barriers faced by job seekers in this evolving landscape. A structured questionnaire was distributed to HR professionals and job seekers across various industries. The questionnaire aimed to assess perceptions of AI's effectiveness in recruitment, its role in decision-making, and the obstacles job seekers encounter when interacting with AI-driven systems. Preliminary results indicate that AI significantly enhances recruitment efficiency by automating candidate sourcing and screening. But it also introduces significant barriers for job seekers, including algorithmic bias, and the impersonal nature of AI interactions. However, challenges such as data privacy concerns and resistance to change were identified. The study concludes that while AI has the potential to revolutionize HRM practices, ethical implications, and accessibility issues must be addressed to create a more inclusive recruitment environment. This research contributes to the growing body of literature on AI in HRM and highlights the importance of balancing technological advancement with equitable recruitment practices.

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1 Introduction

The rapid advancement of Artificial Intelligence (AI) has transformed various sectors, notably Human Resource Management (HRM). This study investigates the impact of AI on HRM practices, specifically focusing on its influence on recruitment processes and the barriers faced by job seekers in this evolving landscape. There is a strong indication that the future of HRM practices will be marked by extensive digitalization and increased virtualization, driven by AI technologies. This shift aims to achieve a sustainable competitive advantage through enhanced human capital and HRM practices that align with Industry 4.0 standards. Allowing It emphasizes smart factories and the digitization of production and business operations, allowing for greater efficiency, flexibility, and customization.

If we seek to identify all AI techniques currently aiding business functions, an important question emerges: are they genuinely applicable to different HRM functions?

This suggests that there is still substantial work to be done, requiring future researchers to systematically identify and evaluate the relevance of AI techniques for specific HRM tasks. Additionally, the systematic literature review (SLR) reveals a research gap concerning the outcomes of AI in HRM. Previous studies have largely overlooked the analysis of how AI-driven HRM outcomes connect to broader organizational results.

2 Theoretical Background /Literature Review

Many researchers agree that AI can significantly benefit organizations. When applied to the recruitment process, AI helps manage large volumes of applicants by streamlining tasks such as resume screening, ensuring a faster and more efficient evaluation process Fraj&László (2021). The practical application and benefits of AI in recruitment present a paradox. While there is broad consensus about its potential, challenges arise in its use. For instance, if AI relies on human decision-making patterns derived from the data it analyses, it may replicate past decisions based on established trends in recruitment and selection. This highlights the importance of considering human judgment when utilizing AI-driven recruitment tools, as they may reinforce existing biases or patterns (Dessler, 2020). Similarly, if we aim to

capture all the AI techniques currently supporting business functions, a key question arises: are they truly applicable to various HRM functions? This indicates that much work remains to be done, with future researchers needing to systematically identify AI techniques and assess their suitability for specific HRM functions. Furthermore, the systematic literature review (SLR) highlights a gap in research on the outcomes associated with the use of AI in HRM. There is a significant void in previous studies regarding the analysis of how HRM outcomes, driven by AI implementation, relate to broader organizational outcomes. Columbus (2018) found that HR departments leveraging AI-driven analytics were able to forecast staffing needs by analysing historical data, market trends, and employee performance metrics.

Expert System Theory in Recruitment applies the principles of expert systems to automate and enhance the decision-making process in recruitment and talent management Walley (1996). Expert systems theories are used to explore the diffusion of AI has been used from Golec & Kahya, (2007) in performance management and recruitment and selection embraced the theory of constructing hierarchies for competency-based evaluation and selection of job applicants in the recruitment and selection process Daramola, Oladipupo & Musa, (2010).

The Technology Acceptance Model (TAM) explains how users come to accept and use new technologies. It focuses on two main factors: perceived ease of use and perceived usefulness. Application in HRM: TAM can be applied to understand how HR professionals and employees perceive AI tools in HR processes such as recruitment, performance management, and learning & development. If users believe AI tools are easy to use and helpful in improving HRM outcomes, they are more likely to accept and integrate them into their practice Binns (2018).

3 Methodology

A structured questionnaire was developed to explore multiple dimensions of Artificial Intelligence (AI) in Human Resource Management (HRM), specifically focusing on the areas of recruitment and selection. The questionnaire was designed to capture insights on several key aspects, including perception, usability, effectiveness, and the challenges associated with the use of AI technologies in HRM practices. By addressing these diverse factors, the survey aimed to provide a comprehensive understanding of how HR professionals view AI tools and their

impact on the recruitment and selection process. The questions formulated for this research were crafted by synthesizing recent studies on the intersection of artificial intelligence (AI) and human resource management (HRM). This involved a comprehensive analysis of various AI applications currently employed in the recruitment and selection processes. Additionally, the research incorporated an examination of relevant theoretical frameworks, including expert system theory and the technology acceptance model, to better understand the implications and effectiveness of these AI tools in HR practices. By integrating these diverse sources of information, the research aims to provide a nuanced perspective on the role of AI in enhancing HRM strategies.

To ensure clarity and precision, the survey was composed primarily of objective questions, which enabled respondents to provide specific, measurable responses. These objective questions were crafted to gather in-depth insights into the application, challenges, and effectiveness of AI in the recruitment and selection process. By using structured questions, the survey aimed to minimize ambiguity and allow for comparability across responses. The questionnaire was distributed online to HR staff. The data collected was subsequently analyzed but only in the descriptive analysis, allowing for the identification of insights that reflect the general attitudes and experiences of HR professionals with AI technologies.

4 Results

The survey was distributed to HR professionals from a broad range of industries, ensuring a diverse and representative sample of respondents. It was also distributed to managers and executive directors in smaller firms that do not have HRM departments, considering that they are responsible for hiring decisions. Trying to facilitate a robust response rate, was essential for ensuring the validity and reliability of the findings. From the distributed questionnaires we had 81 responses, in the following figure we can see the variety of the sectors that we had and we had 74 responses from the specific sectors and 7 from other fields that were not identified. The percentage of the responses is highest in the private sector with 33.8% and lowest in consulting and NGOs with 6% to 8 %.

Sector that you work

74 responses

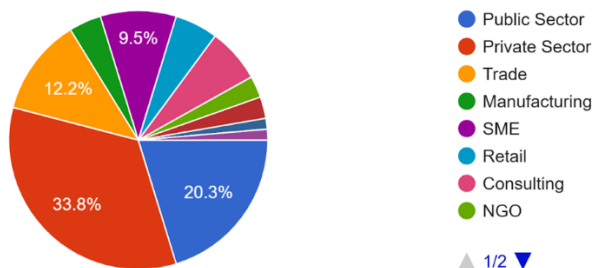


Figure 1: Responses on the sectors of respondents

The study highlights the need for strategic implementation of AI tools in HRM, ensuring ethical considerations and employee buy-in. The findings contribute to the understanding of AI's evolving role in HRM and provide actionable insights for organizations seeking to leverage technology in their HR practices. In the question regarding do they believe that AI has a significant role in transforming HR practices as recruitment and selection 19.8% strongly agree. 66.7% agree, 11.1% are neutral and 3.17 disagree. In the questions regarding how familiar are they with the use of AI in recruitment and selection 22.2% responded that are very familiar 64.2 % responded that they were somewhat familiar and 13.6% responded that they were not familiar at all.

How familiar are you with the use of Artificial Intelligence (AI) in recruitment and selection?

81 responses

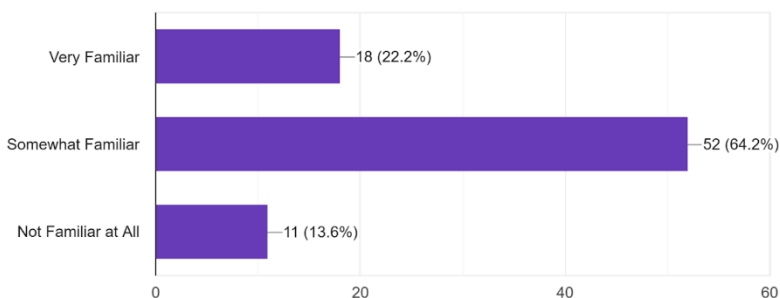


Figure 2: Familiarity of AI in R&S

In Figure 3 below we see that chatbots for screening are the most used with 51.9% in our research AI-driven chatbots being used to engage with candidates, answer questions, schedule interviews, and provide real-time updates. They improve the candidate experience and make the recruitment process more efficient. Research by Tambe, Cappelli & Yakubovich (2019) highlight how AI-based algorithms help to filter candidates based on relevant skills and experience, significantly speeding up the hiring process. From our responses Video Interviewing platforms are also used in the recruitment process with 34.6 % of the respondents using it, followed by applicant tracking systems with 33.3% usage and almost 15 % of not using it at all in their organizations.

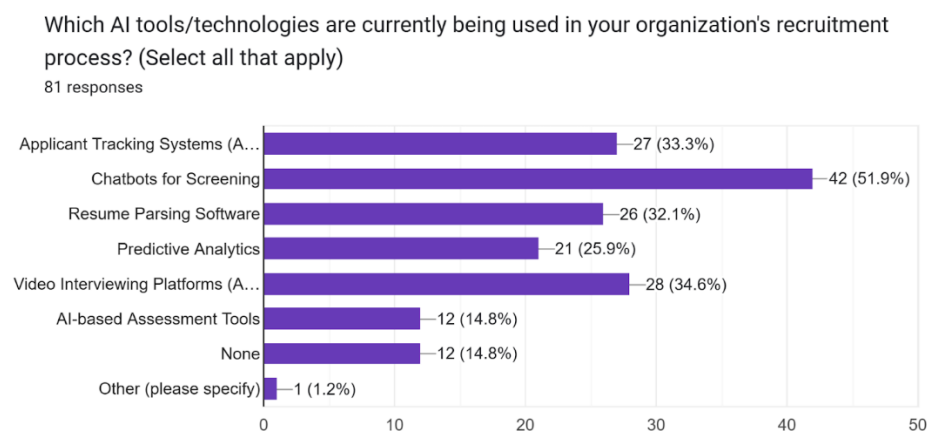


Figure 3: Usage of AI in R&S by HRM

There are several barriers that HRM and their professionals face when implementing these technologies. These obstacles include concerns of Over-reliance on technology with the responses of almost 50% in our research, lack of human touch 43 % of respondents, data privacy responses of around 37.5 %, ethical considerations, and limited understanding and difficulty in interpretation also an issue therefore the adaption on AI tools.

Challenges and Limitations: What challenges have you encountered with AI in recruitment and selection? (Select all that apply)

80 responses

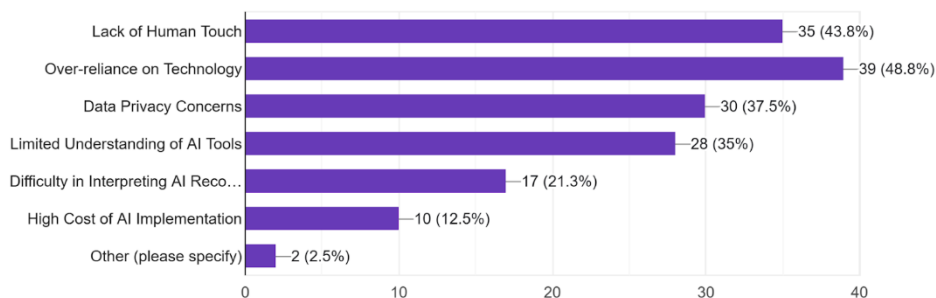


Figure 4: Challenges and Limitations in using AI in HRM

5 Discussion & Conclusions

This research provided valuable insights into the adoption and integration of AI in Human Resource Management (HRM), offering a comprehensive understanding of its impact on recruitment and selection processes. It highlighted not only the numerous benefits that AI brings to HR practices, such as increased efficiency, reduced bias, and enhanced decision-making but also the barriers and limitations that are faced by organizations.

Results from this research indicate that AI significantly enhances recruitment efficiency by automating candidate sourcing and screening, while also improving employee engagement through personalized communication and feedback mechanisms. However, challenges such as data privacy concerns and resistance to change were identified.

The findings contribute to the understanding of AI's evolving role in HRM and provide actionable insights for organizations seeking to leverage technology in their HR practices. Through this research, valuable insights were gathered regarding the adoption and integration of AI in HRM, highlighting both the benefits and the barriers faced by HR professionals. These insights are crucial for understanding how AI is shaping the future of recruitment and selection and what improvements or adjustments might be needed to maximize its potential in HR practices. Key findings

indicate that while AI enhances efficiency and candidate screening accuracy, it also introduces significant barriers for job seekers, including algorithmic bias, lack of transparency in AI decision-making, and the impersonal nature of AI interactions. The study concludes that while AI has the potential to revolutionize HRM practices, there is an urgent need to address the ethical implications and accessibility issues to create a more inclusive recruitment environment. Recommendations for HR practitioners are provided to ensure that AI tools are implemented in a manner that supports rather than hinders job seekers. The benefits of AI in recruitment among others are higher efficiency, reduced bias, better candidate experience, and more accurate data analytics. The discussion surrounding the role of human emotions in the recruitment process highlights the potential drawbacks of relying solely on AI software. While AI can undoubtedly enhance efficiency and minimize human error, an over-reliance on technology may lead to a depersonalized recruitment experience, resulting in diminished empathy and understanding between candidates and recruiters.

Incorporating human emotions into decision-making is crucial, as it fosters meaningful connections that can significantly influence a candidate's experience and perception of the organization. Future research should focus on finding the right balance between harnessing the strengths of AI and acknowledging the irreplaceable value of human interaction in recruitment. It is essential to explore how to integrate AI in a manner that complements, rather than replaces, the human element in recruitment processes.

Limitations of the study; The study is subject to several limitations, primarily due to the small number of respondents and the limited number of organizations currently employing AI throughout the recruitment process. This may affect the findings and depth of the insights that can be drawn from this research. To enhance the robustness of future research, it would be beneficial to include a larger and more varied sample of respondents and organizations. This would provide a more comprehensive understanding of the impact of AI on recruitment processes and allow for richer insights that could inform best practices in the field.

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