The use of AI in human resources and the challenges ahead

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Abstract:

This study examines the application of artificial intelligence (AI) in human resource management (HRM), focusing on its adoption drivers, benefits, and implementation challenges. It identifies that organizations with strong technological infrastructure, innovation-oriented cultures, and committed management are more likely to integrate AI into HR functions. In practice, AI enhances recruitment efficiency through automated resume screening and interview scheduling, while also enabling personalized and data-driven employee training programs. However, the report highlights significant obstacles, including algorithmic bias, high resource requirements, and workforce resistance due to fears of job displacement. To realize AI's transformative potential in HRM, organizations must adopt a strategic approach that balances technological innovation with ethical considerations, employee engagement, and inclusive implementation practices. By addressing these challenges, companies can leverage AI to build more dynamic, efficient, and equitable workplaces.

Keywords: Artificial Intelligence; Human Resource Management; Recruitment Automation Algorithmic Bias; Workforce Adaptation

Part1 introduction

1.1 Purpose of the report

This report analyses the role of artificial intelligence (AI) in human resource management (HRM). It provides insights into how organisations can effectively adopt AI technologies to enhance HR practices while addressing the obstacles they may encounter during implementation.

1.2 Background

In recent years, AI has emerged as a transformative force across various industries, including HRM. Companies increasingly leverage AI to streamline recruitment, optimise employee training, and improve decision-making processes. High-tech enterprises and innovation-driven organisations have been at the forefront of adopting AI technologies. However, integrating AI presents significant challenges, which companies need to resolve these conflicts as soon as possible to facilitate the development of Strategic

HRM through technology.

1.3 Scope of the report

This report explores three key areas related to AI in HRM. First, it examines the factors influencing companies' willingness to adopt AI, including technological and organisational readiness. Second, it evaluates the potential benefits of AI applications in recruitment and employee training. Lastly, it discusses the challenges organisations face in implementing AI, such as workforce resistance and resource limitations. Through this analysis, the report comprehensively evaluates AI's current state and prospects in HRM.

Part2 AI application in today's HR practice

2.1 Willingness

High-tech companies are more likely to use AI technology in their HRM departments. Ghani, Ariffin and Sukmadila-ga (2022) argue that the capabilities and resources of a company's information technology methodology are critical to the effective implementation of AI. It is found that there is a positive linear relationship between information technology and AI technology adoption (Wu, Wang and Lin, 2007). This is because AI requires enterprises' networks, software, and hardware to have better information technology than they do today. When the company's information technology capabilities are sufficient, the steps to introduce and use AI will be reduced, reducing the time cost. In addition, sufficiently robust information technology capabilities will reduce the error rate when using AI technology, reduce the loss caused by AI technology failure and repair costs and time. The HRM department of high-tech companies can use AI technology to improve the communication efficiency of employees within the company and reduce the problems caused by communication errors, thus speeding up work efficiency.

In addition, companies with innovative cultures can also have a higher aptitude for adopting AI technologies. Companies with innovation as their goal and values seem to embrace AI quickly. Companies can use AI technology to develop new products and set new strategic objectives. Amazon's diversified business depends on its innovation values, which permeate the entire company and make artificial intelligence occupy a significant position in Amazon's research centres (Rikap and Lundvall, 2021). AI has breathed new life into Amazon's innovation to ensure it can maintain its position as a market leader in the market. The idea of innovation prompts Amazon to create artificial

intelligence, and artificial intelligence leads Amazon to innovation, which is a favourable positive cycle.

In addition to external factors, the support and engagement of internal organisations and management are also essential to driving AI adoption. Research shows that the support and involvement of senior managers influence AI adoption (Ghani, Ariffin and Sukmadilaga, 2022). Management can help other employees in the company adapt to AI working together by communicating with employees and creating an environment conducive to AI learning. However, the management must promote the project process; otherwise, the project has the potential to collapse (Elbanna, 2013). Management support can drive the project forward by developing a clear AI adoption strategy and ensuring the company has a clear direction and goals for technology adoption. Besides, an organisation's readiness for and compatibility with technology will also affect the efficiency and effectiveness of AI adoption. If an organisation is ready to use AI, employees could not feel limited in using the new technology, and they can realise the usefulness of this new technology. The extent to which an organisation with compatibility can easily absorb the use of AI and integrate it into its existing processes and available infrastructure (Chatterjee et al., 2021). A compatible organisation will readily accept new uses and quickly leverage and incorporate them into its work. This will enable better implementation of the application of AI in the organization.

2.2 potential effects

AI can automatically screen candidate resumes and rank the best candidates (Albert, 2019). Esch and Black (2019) highlighted that increasing the use of AI in recruitment can improve the acceptance rate of job offers. AI methods improve the recruitment speed of HRM departments by eliminating repetitive labour such as screening resumes and automatically scheduling interviews, meetings, and tests.

Besides, using AI for recruitment can also reduce costs, respond to candidates, and improve the experience of candidates. The adoption of AI makes the recruitment process of enterprises more efficient, significantly reducing labour costs and time costs. However, many people believe that AI is not fair in the recruitment process, and it has a particular bias, although this bias is not generated by AI itself but by the human input algorithm (Black and van Esch, 2020; Kaplan and Haenlein, 2020; Chen, 2023). Furthermore, artificial intelligence systems are created, directed, and trained by humans. Still, humans may inadvertently bring in their own biases when inputting data, which could be learned by artificial intelligence. For example, the re-

cruitment tools used by Amazon are prejudiced against female job candidates because the majority of algorithmically programmed and software development jobs are held by men (Dastin, 2022; Chen, 2023), while men carry some prejudice against women in the studio, even if it is unconscious. This affects fairness and transparency in the use of AI.

AI can provide more intuitive and personalised training content based on employees' learning needs and abilities. Such a personalised approach to training makes the learning process more efficient and better able to meet the needs of different employees (Maity, 2019). Besides, the application of AI technology has made training practices more intelligent. For example, AI can automatically adjust the content and manner of training by analysing the learning progress and feedback of employees, thereby improving the effectiveness and engagement of training (Terblanche et al., 2022). Moreover, it can analyse large amounts of HR data to help organisations identify training needs and effectiveness, thereby optimising training strategies and resource allocation. This data-driven approach makes training and development more scientific and efficient (Sousa and Rocha, 2019). Hence, AI significantly improves the efficiency and effectiveness of training through personalised, intelligent, democratic and data-driven approaches in employee training and development.

Part3 Main challenge

Poole and Mackworth (2023) argue that resource constraints for AI adoption refer to the limitations and challenges faced by enterprises in funding AI projects, research, development, and implementation. Regarding the workforce, AI technology requires the investment and support of many experts. Enterprises must prepare the corresponding information technology and invest in many algorithms regarding material resources. In addition, supporting AI data updates and technological advances also require funds.

Introducing AI machines may be seen as job competition, leading to employee resistance to AI (Hamouche et al.,2023). For example, AI may displace certain areas of expertise, changing job and power dynamics. Many employees believe that AI harms their work opportunities and career development. After AI replaces specific fields, workers may face challenges in skill transfer, especially older workers who face more significant difficulties in retraining and finding new jobs.

Part4 Conclusion

The report highlights how, in HRM, AI adoption is primarily driven by an organisation's technical capabilities, innovation objectives, and management support. High-tech companies and innovation-focused organisations are particularly well positioned to integrate AI, thanks to their ability to streamline processes, enhance decision-making, and foster a culture of efficiency and innovation. AI has proven to be a transformative force in HRM, with its ability to automate recruitment processes and provide personalised employee training. However, algorithmic bias in AI and the potential for human labour substitution have sparked controversy in industrial relations. The great promise that AI can revolutionize HRM rests on the premise of a strategic approach that balances innovation with ethical considerations and employee inclusion. By addressing these challenges and properly leveraging AI, organizations have the potential to create more dynamic, productive, and inclusive workplaces that drive long-term success and adaptability in a competitive global environment.

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