
EFFECT OF ARTIFICIAL INTELLIGENCE ON HUMAN RESOURCE MANAGEMENT

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Abstract

Strategic integration of Artificial Intelligence technology into Human Resource Management (HRM) practices holds immense potential for organizations to transform their human resource's function, leading to increased efficiency, productivity, and overall organizational success. This paper examines the criticality of ensuring that the implementation of AI in HRM does not overshadow the human element of performance as organizations embark on this journey of digital transformation. The writer recommends a balanced approach and concludes that it is not enough to solely rely on AI-driven systems; organizations must also consider the ethical implications, the impact on employee well-being, and the potential biases that can arise from using machine learning algorithms.

Keywords: *Artificial Intelligence, Technology and Human Resource Management*

INTRODUCTION

The urgency for effective management of human resources (HR) has reverberated loudly in the corporate realm for close to a decade. In the past, HR management primarily revolved around record-keeping and ensuring adherence to regulations, leaving little room for HR to contribute strategically. Businesses are increasingly recognizing the profound impact Artificial Intelligence (AI) can have on organizational flexibility, efficiency, and ingenuity through the utilization of HR analytics. Forecasts suggest that by 2024, the HR analytics sector could burgeon to a staggering \$5.3 billion, based on current market analysis reports. Forward-thinking enterprises exhibit strategic vision and are poised for successful future operational trends by integrating AI technology into their HRM practices. However, research on digital transformation underscores that organizations will truly reap the benefits if the implementation of AI in HRM does not overshadow the human element of performance. Both HR experts and practitioners are calling for in-depth insights into the far-reaching effects and underlying causes of decisions made by AI-driven HR systems on a large scale (Owoc et al., 2021)

As Artificial Intelligence progresses and interfaces more deeply with human existence, the exploration broadens, skirting against profound epistemological concepts - cognitive embodiment aspects of AI; critical unintended consequences - like societal/socio-technical impacts of AI; and broader realms of sociological, policy, and governance that transcend traditional delineations, instead recognizing intricate, densely interconnected, and perpetually evolving networks of diverse societal actors (such as distributed AI development-application ecosystems). AI trajectories are not entirely under continuous supervision, although efforts are being made to contemplate more structured paths or enhanced adaptive responses. Primarily, Virtual Reality (VR) and AI have permeated nearly

every facet of our daily technological routines, and HRM is no exception. Real-world HRM scenarios present a multifaceted, molded, and directed, yet open-ended amalgamation of motivations, manipulations, insights, and a discerning assessment of current AI trajectories, pathways, and cognitive frameworks. Despite the extensive literature addressing the "ethical" risks, "social" ramifications, and "commercial" benefits of Artificial Intelligence and autonomous robots in human society, it remains unexplored whether the exploration of AI in HRM aligns with this trend. A fundamental step in such an inquiry involves examining formal empirical literature (both historical and contemporary) that intersects HRM and AI, offering authentic case studies for analysis. Consistent with Fernández-Macías et al., 2018, the goal of this paper is to explore the intellectual landscape, concerns, challenges, and innovative developments in the realm of HRM where AI serves as the central technology for various HR functions. (Fernández-Macías et al., 2018)

Integrating AI with HRM not only communicates to stakeholders (employees, applicants, managers, society) that organizations prioritize agility, productivity, and innovation through digital transformation and AI-driven decisions but also underscores the importance of adopting and effectively integrating Artificial Intelligence in employee-centric operations from a business standpoint. Further, HR analytics has advanced by incorporating sophisticated diagnostic and predictive capabilities, enhancing the capacity to automate various HRM functions. Recent instances demonstrate a growing trend towards automated decision-making, encompassing tasks like payroll processing, career-path guidance, and employee performance assessment, thereby associating analytics capabilities with HRM. Additionally, machine learning algorithms can offer precise real-time forecasts to optimize and personalize the employee journey across multiple domains, including talent acquisition, sustainability management, training, career advancement, employee contentment, retention, and productivity enhancement. Understanding the rationale behind these decisions and predicting their repercussions could yield invaluable insights for academic and practical realms, aiding in the formulation of more potent and streamlined HRM strategies. (Jain et al., 2022)(Maghsoudi et al., 2023)

CONCEPTUAL REVIEW

Fundamentals of Artificial Intelligence

Artificial intelligence (AI) has the capacity to alleviate the burden on human resource management (HRM) teams by handling mundane administrative duties. Artificial intelligence can also incorporate assessments of psychological, sociological, and human elements into decision-making models. Yet, the readiness of companies and the HRM sector to embrace and incorporate Artificial Intelligence into HRM functions remains unexplored. To investigate the preparedness and integration of Artificial Intelligence as a tool in HRM practices, this paper recommends a multidisciplinary approach that offers fresh empirical insights into an evolving digital landscape.

Kabengele Mpinga et al., (2022) opined that even though the impact of Artificial Intelligence systems on human resources and HR management has garnered significant attention, the evolution of the manpower management model over time and the theoretical framework have not been thoroughly elucidated.

Human Resource Management in the Digital Age

According to Maghsoudi et al., (2023), since the beginning of the 21st century, Artificial Intelligence has come to play an important role in human resource management (HRM). The introduction of HRM technologies, such as Artificial Intelligence, electronic

human resource management and analytics systems, is reshaping HR work and its methods (Trenerry et al., 2021).

With the development of Artificial Intelligence, HR professionals are now focusing on HR apps' predictive capabilities to identify and respond to signal employees and to forecast long-term labour supply. In the last decade, AI-driven HR analytics has significantly progressed and become an integral part of HR practices in many major corporations. These technologies today offer strategic decision support for HR managers and HR functions that operate reactively. These HR analytics platforms can process large amounts of data in little time, discover hidden correlations, suggest trends, and render almost real-time decisions. Online data collection is often carried out through employee records or processes. These data are then used to forecast long-term supply (Xie, 2022). The intensive use of HRM technologies means digitizing HRM has become an integral part of today's HR issues. Therefore, there is a need to complement this literature on AI driven HRM analytics by offering an integrative review of the transformation of HRM in the digital age. The digitization of HRM is a game-changer. AI-driven HRM technologies change not only how HRM work is being conducted in organizations, but also redefine what human resource management is. Training, hiring, performance management, learning, compensation, and so on are now on a number of HRM research agendas, as are AI-driven talent management applications, employee lifecycle applications, and electronic talent selection. This innovation might also change HRM practices and work methods, assignments of roles and responsibilities for HR professionals, and how executive management perceives HR. In brief, this paper presents the state of HRM technologies that are currently used by HR professionals and shows that many of them use these technologies for more than improvement purposes. HR professionals address AI-driven HRM technologies above all as a transformation to digital HRM, which implies that managing HR is now done differently and perhaps just 'is done' differently. This implies, on the one hand, changes in HRM work assignment (i.e. roles & responsibilities) and HRM professional competences, and on the other hand, many changes in what are considered HRM practices. This paper not only re-articulates HRM in value-based terms related to HRM work methods, artefacts, data, insights, etc. but also integrates existing literature on AI-driven HRM analytics, electronic HRM, and talent management systems, in order to delineate the contours of AI-driven HRM research.

THE ROLE OF ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT

Being a pivotal domain for Artificial Intelligence implementation, its impact on an employee's HR service experience and an organization's growth and competitiveness is profound. Hence, delving deeper into how Artificial Intelligence influences HRM holds significant research value. Through the comprehensive integration of Artificial Intelligence and cutting-edge technologies in HRM services, users within enterprises can access real-time personnel insights derived from data. Additionally, Artificial Intelligence technologies enable HR managers to gain a deeper understanding of their workforce. The evolution of Artificial Intelligence technologies has evidently reshaped the landscape of human HRM services. Acting as a supporting study for HRM-AI applications, the findings offer valuable recommendations to enhance HRM-AI initiatives within Chinese enterprises.

According to the World Economic Forum, the widespread adoption of artificial intelligence (AI) is predicted to revolutionize various industries across the global economy, impacting approximately 13-23% of current jobs. This technological shift is not only reshaping the way businesses operate but is also leading to significant transformations in

the field of human resource management (HRM). An increasing number of HRM professionals are now recognizing the profound implications of AI on work processes and HRM practices. The evolving landscape of HRM demands a blend of managerial expertise and technological proficiency, with a specific emphasis on Big Data analytics, information technology, and AI integration. In light of these advancements, it is crucial for HRM theories, tools, and strategies to undergo a process of revitalization, enhancement, and adaptation to ensure seamless synergy among the key systems at play - the human resource system, enterprise system, AI system, and social system. Consequently, proponents assert that the exploration and implementation of AI in HRM necessitates a solid foundation of theoretical underpinnings to drive meaningful progress. (Bauroth et al., 2024)

Recruitment and Selection

In order to progress, research that looks ahead it is essential to pinpoint and tackle cognitive biases in recruitment, particularly concerning the interplay between human and Artificial Intelligence (AI) processes and cognitive biases. Besides mere identification and measurement, the validation of such biases is pivotal for grasping their genuine impact. Research at the crossroads of HR and AI has captivated scholars for quite some time, and lately, the advent of Artificial Intelligence strategies is anticipated to revolutionize the recruitment and selection facets of HRM. Artificial Intelligence, in essence, steers clear of human cognitive biases and trims down recruiting costs, although eventually, human biases could seep into Artificial Intelligence, underscoring the necessity for studies to delve into how human bias infiltrates and meshes with Artificial Intelligence within the recruitment process (Faqihi & J Miah, 2022)

AI-driven recruitment is currently being leveraged to streamline the hiring process. Nonetheless, ethical dilemmas concerning prejudice have come to light. While numerous studies have delved into uncovering biases in predicting recidivism, there remains a dearth of clarity, reliance, comprehensibility, and ethical standards ingrained in healthcare technologies. Consequently, the repercussions of AI-crafted evaluations need to be cross-checked against a traditional feature selection (for an automated classifier) and should be scrutinized within the realm of human decision-making. Such analyses aid in unraveling biases in both human and AI decision-making, influencing end-to-end procedures as well as the perceptions and actions of the parties involved (Aleksander Sánchez Olszewski, 2024)

Ethical Considerations in AI-Driven Human Resource Management

The primary aim of this scoping review was to compile a synthesis of Artificial Intelligence and HRM literature with the explicit goal of offering a comprehensive overview of the current theories and pressing research topics in the Artificial Intelligence + HRM domain. The precise research query for this initial phase and subsequent search outcomes was: What are the fundamental insights and contemporary trends in the existing literature that intersect Artificial Intelligence and HRM thematically? This examination of the landscape holds significance: Scholars have emphasized the need for a deeper investigation into human-centered and human-related issues linked to algorithm-driven HRM advancements. Choices and deliberations made by upper- and mid-level management may result in context-specific trade-offs and dilemmas that impact aspects such as trust, equity, job contentment, and confidentiality. This delineates a particularly crucial area for investigation. (Jain et al., 2022)

Artificial Intelligence-driven HRM has the potential to escalate social and psychological strain. The misuse of algorithms could introduce biases, potentially resulting

in discriminatory practices that target particular minority groups warranting legal protection. Recognizing these interrelations and the ethical dilemmas they pose emphasizes the necessity for research that delves into the prospective ramifications of contemporary AI-infused HRM practices. (Bauroth et al., 2024)

Challenges and Opportunities

Artificial Intelligence presents both opportunities and challenges for HRM practitioners. AI can potentially assist HRM specialists not only in replacing traditional functions, but also in creating opportunities for the development of new activities, functions, and positions. Over the years, it has become evident that AI applications for HRM can lead to a reduction in human effort and improve the delivery of HRM services. Human Resources Management responsible for Artificial Intelligence applications usually starts with three distinct value chains. A primary value chain includes the timelines of traditional HRM functions such as recruitment, selection, training and development, performance appraisal, compensation, discipline, and the like. The secondary value chain in the HRM domain can be related to the activities involved in conception and coordination for newly defined HRM solutions, that is, developing actionable strategies on how to leverage AI for specific objectives. The third value chain is the support that is furnished on behalf of traditional HRM functionaries. Artificial Intelligence offers substantial opportunities; however, at the same time, it also poses certain challenges and risks. All these value chain positions can be of similar importance, depending on the size and expectations of the organization.

Human Resource Management (HRM) was one of the last management areas to engage with the field of Artificial Intelligence (AI) (Maghsoudi et al., 2023). However, Artificial Intelligence is already becoming an intrinsic part of HRM. It is substantially transforming the HRM function. Artificial Intelligence has the potential to significantly enhance managerial decision making by providing supplemental AI-driven analysis, identifying hidden patterns, and uncovering relationships or distributions that are too complex for the human mind (Choi et al., 2023). This may be particularly beneficial in the areas of talent acquisition and performance assessment (e.g. toward finding optimal matches between jobs and employees). AI can also support HRM through robotic process automation (e.g. taking away from HR the tedious, rule-based, and transactional process, making employees available to focus on judgment, creativity, and relationship).

CONCLUSION

In conclusion, the strategic integration of AI technology into HRM practices holds immense potential for organizations to transform their human resource's function, leading to increased efficiency, productivity, and overall organizational success. However, it is essential to approach this transformation with a balanced perspective, ensuring that the human element remains at the forefront, and that the implementation of AI complements and enhances HR decision-making rather than replacing the vital role HR professionals play in managing the workforce. By embracing AI and leveraging HR analytics effectively, organizations can unlock unparalleled opportunities to shape a thriving and future-proof workforce, while still upholding the values of fairness, ethics, and employee well-being. (Owoc et al., 2021).

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