ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN HUMAN RESOURCE MANAGEMENT

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Abstract
AI holds considerable significance in HRM, primarily because it can enrich employee experiences and liberate HR professionals to concentrate on higher-value, less monotonous responsibilities. For example, AI excels at automating routine tasks, like addressing frequently asked questions from new hires during their initial onboarding. Furthermore, it aids in refining employee development processes by gathering performance metrics and peer evaluations throughout the year, generating preliminary performance reviews, and formulating tailored learning paths for employees. Generative AI offers HR departments significant time savings on tasks like drafting job descriptions or formulating email responses to prospective job applicants. While human capital management software has been a staple for improving HRM effectiveness, AI introduces novel avenues for boosting both efficiency and overall effectiveness. This time savings allows HR staff to shift their focus toward strategic activities, such as crafting staffing strategies in collaboration with business unit heads, scrutinizing employee performance and satisfaction patterns, and rolling out innovative approaches to elevate the employee experience and ultimately contribute to achieving the organization's broader objectives. This paper highlights the role of AI in HRM.

***Keywords**: Artificial Intelligence, Human Resources Management, Human Capital, Employees*

Introduction

AI's significance in HRM lies in its capacity to enhance employee experiences and free up HR professionals for higher-value activities. For instance, AI streamlines routine tasks like addressing frequently asked questions during onboarding. Furthermore, it aids in employee development by collecting performance data and feedback, compiling performance review drafts, and generating tailored learning plans. Generative AI further assists HR departments by reducing manual tasks such as drafting job descriptions or candidate email responses. While human capital management software has long improved HRM effectiveness, AI presents fresh opportunities for efficiency gains. By reducing time spent on administrative work, HR professionals can dedicate more attention to developing staffing strategies with business leaders, analyzing employee performance and satisfaction, and implementing strategies to improve employee experience and organizational goal attainment. This paper highlights the role of AI in HRM.

Review of Literature

AI's growing influence is undeniable, and Pan et al. (2023) highlight its potential to reshape human resource management (HRM). However, the existing body of knowledge, though substantial with contributions from numerous disciplines, often feels fragmented due to limited cross-disciplinary exchange. A detailed, systematic review spanning 184 articles aimed at providing a more unified view. They categorized prior research into management and economics, computer science, engineering/operations, and other fields. Findings indicated distinct research foci and methodologies across these disciplines. Technical disciplines often leaned towards AI development for specific HRM tasks, while others focused on the broader impacts of AI on HRM, jobs, and the labor market. A general weakness in theoretical underpinnings was noted across all categories, leading to recommendations for better interdisciplinary collaboration, a proposed unified definition of AI, and implications for both research and real-world practice.

Malik et al. (2023) argue that AI doesn't just affect HRM; it's actively transforming the very essence of work, the workforce, and the workplace. While AI-assisted HRM is increasingly seen as a route to boosting organizational productivity, the academic literature is still somewhat lacking a clear strategic framework to guide HR managers in its adoption and implementation. Existing research, however, provides a solid foundation for such a framework. This systematic review, covering 67 peer-reviewed articles, endeavors to do just that. The authors critically assess the organizational and employee-centric outcomes of AI-assisted HRM, ultimately developing a strategic framework intended to guide both current practice and future investigations.

Bohmer and Schinnenburg's (2023) research suggests that human resource management (HRM) is becoming increasingly AI-driven. It is also supporting the broader digital transformation of companies striving for competitive viability. Their

paper looks at possible upsides and downsides for HRM, workplaces, and worker organizations across various HR processes, and the potential for gaining a competitive edge through AI implementation—specifically regarding how work is augmented or automated. Their systematic literature review, which spans 62 international journals (including top-tier academic publications and German practitioner journals), employs a resource-based view (RBV) to examine AI-driven HRM as a potential wellspring of organizational capabilities. The analysis reveals four "ambiguities" that could either bolster sustainable company growth or hinder AI application: job design, transparency, performance, and data usage. They point out that there has been only a limited scholarly discussion, with very few studies that offer empirical data. So far, research has mostly concentrated on HRM generally, recruiting, and HR analytics specifically. These ambiguities' context-specific capacity for building firm capabilities is highlighted, and potential research directions are mapped out. This work provides a crucial exploration of AI-driven HRM, providing a framework for these context-specific potentials to build capability that HRM must address to contribute to an organization's competitive edge strategically.

Gupta (2024) states that Artificial Intelligence (AI) in Human Resource Management (HRM) is now a central factor shaping workplaces as we know them. The paper delivers a comprehensive overview of AI's influence on HRM, from initial concepts to practical uses. It also goes into the benefits, challenges, ethical considerations, legalities, future trends, and actionable items. Opening with an introductory framework, the study then navigates those aforementioned elements. The incorporation of Artificial Intelligence within Human Resource Management is changing how organizations function, presenting both opportunities and challenges. Budhwar et al. (2022) note a rise in AI applications in HRM across both domestic and international companies, sparking research into the social impact of AI, its effect on business results, and the evaluation of AI-driven HRM strategies. These technologies are reshaping work, enabling greater efficiency in resource utilization, decision-making, and problem-solving.

Halid et al. (2024) emphasize the need for organizations to modernize in response to rapid changes in information technology, leading to an increased adoption of AI, generally speaking. As computers and people work together more closely, AI's potential to boost productivity and efficiency is being explored. HR professionals are starting to focus on the importance of blending manual tasks with automation for a better user experience.

However, Prikshat et al. (2023) point out a gap in the existing research, which often lacks a solid theoretical foundation for understanding the use of disruptive technologies like AI in HRM. While AI-augmented HRM offers operational, relational, and transformational benefits, its adoption is uneven and sometimes incomplete. By integrating the Technology, Organisation, and People (TOP) framework with the theory of innovation assimilation, this paper develops a structured theoretical framework for AI's assimilation into HRM, sometimes referred to as HRM(AI).

Navigating the AI Landscape in HRM: Benefits and Considerations

Benefits

In Human Resource Management, time is of the essence given the breadth of responsibilities. Artificial intelligence offers promising avenues to alleviate workload pressures, especially with recurring tasks like drafting initial candidate communications and other written content. This can free up HR professionals for more AI-assisted analysis and higher-impact activities.

Time Efficiency in HR Administration: AI can streamline the more routine HR duties. Think drafting job postings or identifying potential candidates. Because it can gather information about company culture and required skills for a given role, AI is able to generate job descriptions. HR can then review and finalize these drafts, ensuring both accuracy and appeal to top talent.

Data-Informed Decision-Making: AI empowers HR departments to make better-informed choices. By compiling data related to employee performance and engagement, AI can provide valuable insights. These insights, in turn, can help identify specific workforce challenges and guide appropriate remedial actions. For example, AI can assist in skills audits by documenting existing skills from employee profiles and comparing them to current job market demands and trends. HR can then leverage this data to pinpoint skills gaps and devise targeted upskilling or hiring strategies.

Elevated Employee Engagement: The data aggregation capabilities of AI make it useful in creating personalized employee experiences. By monitoring employee accomplishments, learning patterns, and performance data throughout the year, it is possible to create customized development plans that cater to individual employee needs.

Potential Challenges of AI Implementation in HRM

Adopting any new technology presents obstacles, and understanding these can help to manage potential drawbacks.

Cybersecurity Concerns and Data Breaches: HR departments routinely manage sensitive employee data, including social security numbers, pay details, and bank information. Without robust data protection measures, this information becomes susceptible to unauthorized access or misuse, especially when accessed by AI models for analysis or content creation (Zhou et al., 2023).

Lack of Algorithmic Transparency: Some AI tools may deliver results without clarifying the process behind them. HR professionals may prefer insight into how AI models arrive at their recommendations and conclusions, along with continuous verification of their accuracy.

Cost Implications: AI deployment can be costly if business objectives and technology strategies are misaligned. While building custom AI models may not be feasible for most HRM applications, leveraging pre-integrated AI within HRM systems is often a more viable option. This approach can eliminate the need to hire data scientists, train models, or transfer data to external AI platforms (Radonjić et al., 2024).

AI Deployment in HR

When deploying AI for HR, ensure that data is both accurate and up-to-date. Data is the foundation upon which AI models learn and produce relevant outputs, which is why a reliable dataset is essential for effective AI utilization.

When implementing AI in HRM, consider these general approaches. The more common method involves embedding AI capabilities directly within HR applications. This might manifest as a GenAI tool within recruiting software, assisting recruiters in drafting job requisitions. One advantage of embedded AI is its accessibility during the workflow, and its limited requirement for deep AI expertise to deploy and operate.

On the other hand, organizations may opt to deploy AI models on cloud infrastructure. This allows the potential to refine models for specific organizational requirements or use cases, and to scale resources accordingly. Most HR departments probably won't build and refine their own AI models. It's usually too expensive, requires specialized AI expertise, and frankly, it’s only necessary if the company’s got a really niche AI application that off-the-shelf software can’t handle. However, a company will need computing capacity to train those AI models.

When considering AI for your company, think about whether “classic AI” or generative AI better fits your business needs. Classic AI excels at analyzing large datasets to spot trends, make suggestions, and flag deviations. Alternatively, GenAI can create new content—text, images, videos, you name it—based on user prompts. For instance, it can whip up summaries of employee feedback. Both flavors of AI are increasingly found within HR management software.

Post-implementation, keep a close watch to ensure your AI delivers the desired results. Monitor and tweak it regularly, gathering user feedback on its accuracy, how well it functions, and overall satisfaction.

AI in HRM: Some Examples

Recruitment Automation: AI is a boon for HR in recruitment. It helps identify candidates whose skills match job requirements. Through algorithms and machine learning, AI helps recruiters sift through large applicant pools to find the best fits, saving both time and money. For example, HR can use GenAI to draft job postings, pulling together info about the position and your company's values and culture to create a first draft that HR can then tweak and refine (Du, 2024).

New Hire Onboarding: Once you've landed top talent, AI smooths the onboarding process, cutting down on administrative headaches. AI-powered chatbots can answer common questions ("Does my health insurance cover this?"). Also, AI can even suggest role-specific training or match new hires with buddies based on their work history. For those with unique needs, AI can personalize their onboarding, suggesting milestones based on their skills or career aspirations. This efficient, personalized onboarding makes a positive first impression, helping new hires get up to speed faster. By taking on these tasks, AI frees HR to connect with new employees and help them adjust.

Development Opportunities: Companies that invest in employee learning are more likely to retain them. AI aids training and development by studying individual learning patterns. It then uses that data to personalize training and adjust learning paths as people progress. By looking at an employee's tenure, performance reviews, training, and experiences, AI can draft actionable goals and recommendations. Investing in employee growth boosts engagement and retention—generally speaking.

Boosting Employee Engagement: A responsive and personalized employee experience drives engagement, and AI can contribute here. AI tools can craft custom development programs based on individual goals and company needs. Furthermore, AI helps spot and monitor workforce trends, like employee sentiment. Beyond merely participating in performance evaluations and company activities, meticulously tracking relevant data empowers HR departments to proactively anticipate disengagement. This foresight allows sufficient

lead time to implement solutions—for instance, facilitating deeper, more substantive conversations between managers and their employees during performance reviews—before disengaged employees ultimately choose to depart.

Improving performance management is also seeing a boost: AI's continuous data collection capabilities can be leveraged to gather employee performance data, alongside both peer and manager feedback, throughout the entire year. Subsequently, AI can utilize this aggregated information to generate a comprehensive summary of an individual's overall work, serving as an initial framework for performance reviews. Employing AI to streamline performance management tasks can significantly mitigate the common tendency to overemphasize the significance of only the most recent experiences. Furthermore, managers can initiate the process with brief bullet points encapsulating an employee's performance and then employ GenAI to transform these concise notes into a comprehensive performance review draft, which they can then carefully review and revise as needed. This effectively allows managers to allocate less time to the often tedious task of generating elaborate prose for performance reviews and more time to engaging in meaningful, impactful conversations with employees concerning their work, behaviors, and overall achievements.

Conclusion

Although AI remains in the relatively early stages of widespread adoption, the signs are certainly promising. According to the 2024 Deloitte Generative AI survey, a significant 70% of organizations boasting very high levels of GenAI expertise report that they have already improved existing services and products, and a further 45% indicate plans to reinvest cost savings realized from GenAI initiatives into further innovation endeavors. The growing presence of AI in today's work environment offers significant opportunities for time-saving automation, enhanced personalization, and deeper, more actionable data insights. Professionals tasked with engaging in time-consuming human resource management activities—in areas such as recruiting and performance management—can effectively leverage GenAI to significantly enhance the speed and overall efficiency of many of these processes, freeing up valuable time for other, more strategic work. AI-supported tools can also markedly improve employees' work lives in general. By way of example, chatbots can swiftly address simple queries, training modules can suggest relevant development programs tailored to aid employees in advancing their careers, and performance review analyses can provide valuable insights to facilitate more productive and relevant discussions with their respective managers. To position your HR team for optimal success with AI, it's vital to gain a solid understanding of what the technology is truly capable of and, of course, how your HR professionals can adeptly adapt to the novel capabilities and exciting opportunities that it brings to the evolving landscape of human resource management.

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