

**Implication of Artificial Intelligence in Human Resource Management: Systematic Review**

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**Abstract**

This research performs a literature review to analyze the effects of integrating artificial intelligence (AI) into human resource management (HRM). In the present study, a total of 18 papers were reviewed from several academic databases to know the prominent impact of AI in Human Resource Management such as effectiveness, efficiency, and decision-making in the firm. Though there are some key ideas, concerns were raised on data protection, privacy, and the lack of skill among Human Resource staff. Moreover, a psychological aspect, such as the influence on the personnel and the team climate, is highly challenging. Therefore, the integration of AI and HRM can be the basis for a new paradigm in Managerial HRM; at the same time, it poses the management of new highly challenging conditions. This research sets a strong background for a clear and extensive understanding of AI and HRM.

**Keywords:** *AI, HRM, Cost Reductions, Efficiency, Decision-Making*

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**Introduction**

AI is being integrated into human resource management gradually because it has many benefits that include the ability to achieve more in HRM such as performance, selection, hiring, development, and management of employees. Very few publications suggested that AI is beneficial for enhancing the overall performance of employees and the effective utilization of human capital in organizations. ([Budhwar et al., 2022](#); [Prikshat et al., 2023](#)). AI may affect human resource management and its relationship with the organization as well as its ability to make decisions. Some of the challenges that have been noted include; privacy, information security, and the need to enhance the skills of the human resource staff members. ([Prikshat et al., 2023](#)).

Researchers suggest that since AI elevates employee capability, incentive, and opportunity, then it will greatly boost organizational performance. As stated by ([Zehir et al., 2020](#)) that a general upgrade in the performance levels is observed with the integration of AI into HRM, and at the same time, it results in cost reductions and effects a change across the company.

Application of AI in HRM has many benefits including enhancing effectiveness and productivity of the HR processes and putting pressure on companies to enhance their performance and competitiveness. AI can increase the efficiency of working people, systemic management and decision-making, the distribution of employees and staff ([Chukwuka & Dibia, 2024](#)). Moreover, the chance of using AI in human resources is maintaining and reducing staff turnover ratios in addition to improving worker retention, skills, knowledge, and performance. Once more, recourse to AI control in the HR area can improve performance, decrease fees, and elevate total costs to the corporation. Challenging requirements like privacy, data protection, and increased demand to train human resource staff are still present. As a whole, AI in HRM is expanding its popularity as another valuable contribution to the HRM field and can substantially influence corporate performance ([Chowdhury et al., 2023](#)).

Some benefits of using AI in HRM procedures include; improved performance, efficiency during recruitment, conceptualization of employees, general performance management, and decision-making. AI will enhance the organizational performance, employee efficiency, and management of human capital. AI in HRM may also affect the overall decision-making of an enterprise and consequently may affect the overall agency performance as noted by ([Budhwar et al., 2023](#)). There is every likelihood that AI will enhance the probability, capability, and motivation of employees and, hence, the performance of businesses. AI integration in human resource management is likely to improve performance, reduce the cost of services, and improve the organization fees. But among the challenging contexts highlighted are information security, privacy, and the need to enhance the competencies of personnel in the HR department ([Asfahani, 2024](#)). Various studies have shown that the AI application allows for better outcomes and increased optimality of the final results based on the inclusion of performance control indicators and improving the efficiency of information support to make decisions. It can also assist organizations enhance the services provided by the human resource department, which will enhance the

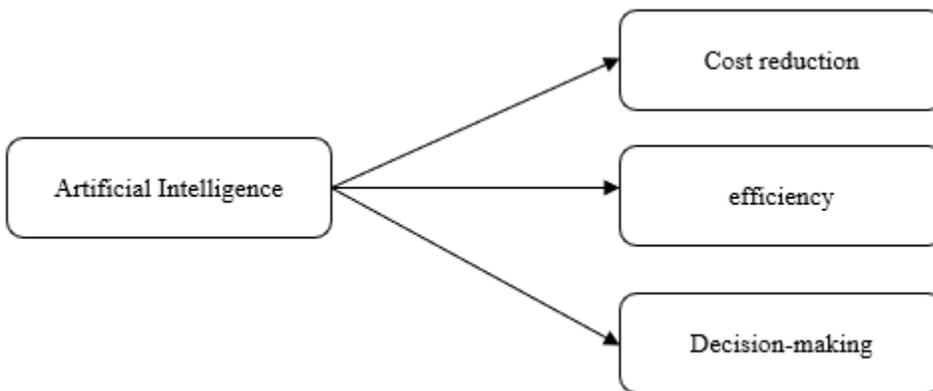
satisfaction of the employees. AI has the potential to enhance employee engagement, improve the recruitment process, and enhance organizational Human Resources functioning.

AI has transformed virtually almost every aspect of human life right from the way human resources are managed to even the most rudimentary activities. This paper aimed to determine the huge effects of incorporating AI in the models of human resource management (HRM) as a line of investigation. We employed a systematic literature review for this study to obtain specific data from several sources that were relevant to the study. The relevance of this study is based on the current digital generation and how artificial intelligence is radically changing how firms manage their human capital. ELMs require organizations to be aware of substantial changes in employee behavior patterns, needed human capital, and labor market requisites in an environment that increasingly leverages technology. The significance of this study arises from the fact it responds to a growing need to know the extent to which AI has impacted HRM and its efficiency in organizations. ([Zehir et al., 2020](#)).

Human resource management (HRM) uses several AI tools, such as: First, AI-based hiring tools use AI algorithms to evaluate resumes, perform initial interviews, and choose the best applicants for a job. Second, AI-powered performance management software analyzes employee performance data and identifies areas for improvement using AI algorithms. Third, AI-based tools for learning and development that apply AI algorithms to tailor learning and development initiatives to the individual requirements and preferences of staff members. Fourth, AI-powered tools for employee engagement evaluate sentiment and input from staff members, pinpoint areas that need work, and offer suggestions for raising engagement levels. Fifth, AI-based workforce planning tools: These programs use AI algorithms to evaluate workforce data and forecast future requirements, such as talent and skill gaps.

AI in HRM is generally seen as a crucial tool in human resource management since it is thought to have a substantial potential to improve organizational performance ([Budhwar et al., 2022](#)). This dynamic evolution of artificial intelligence technology is adding even more pressure to conventional HRM processes. Companies struggle to determine whether such refined human-machine interfaces are impacting employee actions. Also, there is a need to be sensitive to the ethical implications and security issues that arise when implementing this sort of technology in HRM ([Kambur & Yildirim, 2023](#)). This occurrence offers a strong base whereby understanding

the ramifications of full AI integration within HRM, in the long run, can be easily made. Although the body of literature studying the effects of AI on HRM is being regularly enriched, there is still limited information on how exactly AI affects some of the functions within this field. Psychological effects on the worker, changes in issues of teaming, and ethical issues concerning the use of AI to make personnel decisions are some of the topics ([Kambur & Yildirim, 2023](#)). Hence, this research seeks to narrow this existing research gap and provide a systematic understanding of the impact of AI integration on HRM transformation.



**Figure 1. Research Framework**

1. Artificial intelligence in HRM has a positive impact on cost reduction.
2. Artificial intelligence in HRM has a favorable impact on staff efficiency.
3. Artificial intelligence in HRM has a favorable impact on decision-making.

### **Research Methods**

This paper provided a systematic literature review of the effects of AI on Human Resource Management practices. The first step is to identify the relevant keywords for articles to be collected are “Artificial Intelligence,” “Human Resource Management,” and “Impact AI.” These databases were searched with emphasis on the prior year for many essential academic databases such as Scopus, Google Scholar, IEEE Xplore, and ScienceDirect among others.

When searching using the entered combination of terms, the research yields a wealth of articles related to the subject. Initially, 89 items have been recognized. Screening is done to check the suitability and ad-hoc quality of the articles to be included in the study. This research excluded

papers that were not relevant enough to the changes that AI brings to the HRM scenario or that could not be used for the goals of the research.

The papers included and excluded based on these criteria to ensure that papers that had made a great contribution to our understanding of the impact of AI on HRM were retained. This level requires the examination of the publication year, the research methods used, and the level of empowerment related to the HRM environment. This level will have been passed at this level through about 37 items.

In these articles, details of the primary findings, the modes of research, and the approaches used by the researchers to address the influence of AI on HRM were carefully discussed. The systematic preparation of data let the researchers recognize patterns, variations, and similarities across the sections of the literature that were under review.

This method of systematic literature review provides the most elaborate understanding of how AI is affecting human resource management. For this reason, the author seeks to produce a clear and updated literature review of the most cutting-edge research in the discipline when developing the study.

### **Results and Discussions.**

This literature review identified several main facts regarding the effect of artificial intelligence (AI) on human resource management (HRM) approaches. The following are the major benefits, which this research shows can be achieved when implementing AI into human resource management.

First, emerging technologies such as AI bring many opportunities to enhance the effectiveness of the tasks involved in human resource management operations. In recruiting, the use of AI can fasten and even reduce the demands of human resource selection by analyzing information a lot faster and more efficiently. AI can search for candidates using intricate formulas while considering specific requirements and then submit to the organization a list of better matches with the organizational objectives. Besides, in staff development, AI can suggest the education and improvement of an employee particularly according to their detail's performance. This will not only facilitate giving more specific directions but will also provide for the creation of complex development applications to raise the worker's capabilities and competencies ([Kambur & Yildirim](#),

[2023](#)). In complete performance control, we can offer comprehensive reports on the performance of employees using both a quantitative and qualitative system. As proposed, it would help businesses to understand patterns and governance of strengths and weaknesses within employees through their performance at work. This in turn helps the management to harness and make appropriate decisions on the basis of reputation, award, and performance enhancement ([Shao et al., 2024](#)).

Last but not least, by analyzing facts, AI can play a massive role in decision-making. AI could also help managers when it is needed most – when preparing performance evaluations, schedules for employees and other organizational development plans are created, and strategies are formulated on the basis, not of the time available, but of the results achieved. AI in HRM decisions also removes bias while enhancing the accuracy of market responses and translating business wishes ([Sima et al., 2020](#)). AI can apply new technologies to the processes that are involved in HRM with a view of enhancing the effectiveness of those processes at each stage of the process, right from recruitment to the formulation of strategies. It is this integration that lays the groundwork for the more flexible, responsive, and more competitive human resource management.

The second is focused on the role of artificial intelligence in corporate decisions. AI provides timely response and data feedback which enhances decision making as pointed out by ([Rajagopal et al., 2022](#)). First of all, AI ensures constant and prompt feedback on their performance. AI will give the managers and the staff an actual-time view of the advancements in their performance by regularly tracking particular tasks and achievements. This not only makes the review process swift, but it also assists employees in knowing their areas of weaknesses or areas they have to build more muscle to have the ability to meet the laid down performance goals. In addition, I concur with ([Trunk, Birkel, & Hartmann, 2020](#)) that the way AI processes this information is important in executing strategic decisions. From the above discussion, it is clear that AI can facilitate the provision of broad details to management, including employee performance information, information from its industry, or other industries, and information from outside of the business environment. This opens up possibilities for improved strategy formulation processes, market trend analysis, and quick responses to business events. The need for more evidence-based decision-making now emerged not only in personnel matters but in resource allocation, financial decisions,

and overall organizational processes ([Biloslavo et al., 2024](#)). As a result, AI's argument for its contribution to corporate decision-making opens ways for enhanced organizational performance mainly in an ability to cope with environmental changes. With high-stakes policies and a rapidly changing environment where speed and accuracy of decision-making are important in gaining a competitive edge, AI allows for better and more informed policy formulation. This lays a good ground for the development of a better and more sophisticated HRM that befits the current market Technology needs ([Wu et al., 2023](#)).

However, from the literature study of this paper, it has been established that there are a few concerns that arise from the use of AI in human resource management. The two major issues which are more frequently discussed are data security and data privacy. As AI creeps into HRM practices, employee personal information as well as corporate value information must be safeguarded ([Johnson et al., 2022](#)). Apart from that, there is a need to upgrade skills in the area of human resources 'HR'. Awareness regarding such an AI technology, as well as, the capacity to manage it effectively is significant for ideal outcomes. Other challenges highlighted in this assessment were: the emotional toll on employees and internal transformations within work teams. This influence shows that AI integration requires attention to the human part so that there are no disruptions while implementing this technology in an organization ([Ebert et al., 2021](#)).

In general, it is possible to note that the outcomes of this literature analysis reveal the benefits of using AI in HRM as follows: Thus, AI can increase a company's efficiency, and productivity, and improve decision-making ([Al-Surmi et al., 2022](#)). Nevertheless, data security and privacy will also be an issue to contend with at the design and implementation stage, plus the need to train and develop competencies for its human resources. This work lays a good platform for further studies on the interrelationship between AI and HRM as well as direction for further research to understand the overall implication of integrating such technologies in human resource management ([Qamar et al., 2021](#)).

## **Conclusion**

This report also does a literature review as part of measures in an attempt to pull the string behind the impact of AI on HRM. This research's result indicates that integration with AI provides a plethora of significant benefits to the processes of HRM, such as productivity improvement and

effectiveness of processes, among others, through enhancing the human resource distribution and productivity rate.

Nevertheless, these data confirm that there are specific problems that cannot be omitted or underestimated. Privacy and security of its data become a significant concern that need to be solved because the information about employees and a company's activity should be protected. In addition, the desirability for developing the competencies of the HR workers should be enhanced so that the implementation of the AI in the HRM process can be effectively managed.

This work also notes psychosocial factors on employees and alterations of the work team context; It also underscores the need not to lose sight of people even as new technologies are developed and deployed. Last but not least, it is high time to blend AI with Human Resource Management to establish a new era for managing human capital for organizations. Future studies within this field could give a clearer perception of how the technology might be specifically altered in a way that brings the greatest value to the business. Hence, increased research and development most probably will lead us to realize those interactions as more challenging and multifaceted, opening the doors to more innovation and growth within the context of HRI on an ongoing process within the diverse world of HR.

## **References**

- Al-Surmi, A., Bashiri, M., & Koliouisis, I. (2022). AI based decision making: combining strategies to improve operational performance. *International Journal of Production Research*, 60(14), 4464-4486.
- Asfahani, A. M. (2024). Behind the digital veil: decoding the influence of HR training on information security awareness in Saudi Arabia. *Cogent Business & Management*, 11(1), 2395430.
- Biloslavo, R., Edgar, D., Aydin, E., & Bulut, C. (2024). Artificial intelligence (AI) and strategic planning process within VUCA environments: a research agenda and guidelines. *Management Decision*.

- Budhwar, P., Chowdhury, S., Wood, G., Aguinis, H., Bamber, G. J., Beltran, J. R., . . . DeNisi, A. (2023). Human resource management in the age of generative artificial intelligence: Perspectives and research directions on ChatGPT. *Human Resource Management Journal*, 33(3), 606-659.
- Budhwar, P., Malik, A., De Silva, M. T., & Thevisuthan, P. (2022). Artificial intelligence—challenges and opportunities for international HRM: a review and research agenda. *The International Journal of Human Resource Management*, 33(6), 1065-1097.
- Chowdhury, S., Dey, P., Joel-Edgar, S., Bhattacharya, S., Rodriguez-Espindola, O., Abadie, A., & Truong, L. (2023). Unlocking the value of artificial intelligence in human resource management through AI capability framework. *Human Resource Management Review*, 33(1), 100899.
- Chukwuka, E. J., & Dibie, K. E. (2024). Strategic role of artificial intelligence (AI) on human resource management (HR) employee performance evaluation function. *International Journal of Entrepreneurship and Business Innovation*, 7(2), 269-282.
- Ebert, I., Wildhaber, I., & Adams-Prassl, J. (2021). Big Data in the workplace: Privacy Due Diligence as a human rights-based approach to employee privacy protection. *Big Data & Society*, 8(1), 20539517211013051.
- Johnson, B. A., Cogburn, J. D., & Llorens, J. J. (2022). Artificial intelligence and public human resource management: questions for research and practice. *Public Personnel Management*, 51(4), 538-562.
- Kambur, E., & Yildirim, T. (2023). From traditional to smart human resources management. *International Journal of Manpower*, 44(3), 422-452.
- 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.

- Qamar, Y., Agrawal, R. K., Samad, T. A., & Chiappetta Jabbour, C. J. (2021). When technology meets people: the interplay of artificial intelligence and human resource management. *Journal of Enterprise Information Management*, 34(5), 1339-1370.
- Rajagopal, N. K., Qureshi, N. I., Durga, S., Ramirez Asis, E. H., Huerta Soto, R. M., Gupta, S. K., & Deepak, S. (2022). Future of Business Culture: An Artificial Intelligence-Driven Digital Framework for Organization Decision-Making Process. *Complexity*, 2022(1), 7796507.
- Shao, Y., Huang, C., Song, Y., Wang, M., Song, Y. H., & Shao, R. (2024). Using Augmentation-Based AI Tool at Work: A Daily Investigation of Learning-Based Benefit and Challenge. *Journal of management*, 01492063241266503.
- Sima, V., Gheorghe, I. G., Subić, J., & Nancu, D. (2020). Influences of the industry 4.0 revolution on the human capital development and consumer behavior: A systematic review. *Sustainability*, 12(10), 4035.
- Trunk, A., Birkel, H., & Hartmann, E. (2020). On the current state of combining human and artificial intelligence for strategic organizational decision making. *Business Research*, 13(3), 875-919.
- Wu, C., Zhang, R., Kotagiri, R., & Bouvry, P. (2023). Strategic decisions: survey, taxonomy, and future directions from artificial intelligence perspective. *ACM Computing Surveys*, 55(12), 1-30.
- Zehir, C., Karaboğa, T., & Başar, D. (2020). The transformation of human resource management and its impact on overall business performance: big data analytics and AI technologies in strategic HRM. *Digital Business Strategies in Blockchain Ecosystems: Transformational Design and Future of Global Business*, 265-279.