


# Chapter 11


## Role of AI and Machine Learning in the Future of Talent Management

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### ABSTRACT

*The revolutionary technology effect of Artificial Intelligence and Machine Learning on the contemporary Human Resource Management with emphasis on the recruitment, talent analytics, and decision-making processes. It looks at how these AI technologies such as chatbots, predictive analytics, and automated decision-making tools would be utilized in improving the recruitment processes, fostering diversity,*

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*and minimizing the biases when managing the people. It also examines how talent analytics, sentiment analysis, skill gap analysis will be applied in the future. The AI-based solutions in motivating the workforce planning, staff engagement, and predictive recruiting. A combination of the real-life examples of case studies and the recent research helps to understand that the way organizations are adopting AI tool is not only simplifying the processes but also creating more inclusive, strategic, and data-driven HR practices.*

## **1. INTRODUCTION**

### **1.1. Background of AI and ML in HRM**

In the fast evolution of HR, the integration of Artificial Intelligence and Machine Learning is guiding in a new generation. These technologies offer opportunities to streamline the HR processes in order to boost the decision-making, and restructure the employee experience in an organization. The influence of these technologies from talent acquisition to performance management, involved in every aspect of HRM. The evolving role of these technologies, we seek to provide the comprehensive understanding of the prospects which shaping the future of HRM in an era which is dominated by artificial intelligence and machine learning (Basnet, 2024). In the digital era, Human Resources is undergoing a drastic transformation which moves beyond its traditional administrative role to become a strategic partner in driving the organizational success (da Silva et al., 2022, Holbeche, 2022). With the increase of automation and digitalization, the role of HR is focused on using this technology in order to enhance the efficiency, effectiveness, and employee satisfaction (Al Hamad et al., 2024, Orieno et al., 2024).

The amalgamation of Artificial Intelligence along with the Machine Learning in the HR practices is the huge transformation. Initially, HR is focused on managing the employee related tasks like recruitment, training, and performance evaluation.

### **1.2. Need for Technological Integration in Talent Management**

In today's digital age, HR is playing a major strategic role in the organizations which focus on the workforce planning, talent management, and organizational development (Ayeni et al., 2024, Raji et al., 2024). In the organizations which strives to adapt the dynamic digital technology, HR is leading in driving the innovation. By clubbing the AI and Machine Learning in the HR practices is very important for the organizations to stay competitive in the digital era. HR processes can be revolutionized by these technologies by automating the regular tasks by analyzing

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