

Chapter 1

AI and the Future of Talent Management: Transforming Recruitment and Retention With Machine Learning

Muhammad Usman Tariq

 <https://orcid.org/0000-0002-7605-3040>

Abu Dhabi University, Abu Dhabi, UAE & University of Glasgow, Glasgow, UK

ABSTRACT

In recent years, the intersection of artificial intelligence (AI) and talent management has revolutionized the way organizations identify, recruit, and retain top talent. This chapter explores the transformative impact of machine learning on talent management processes, shedding light on the innovative ways AI is reshaping recruitment and retention strategies. The discourse then shifts to AI-powered recruitment, exploring the utilization of predictive analytics to forecast hiring needs, the automation of resume screening for efficiency and bias reduction, and the application of video and behavioral analysis to refine candidate assessment processes. These AI-driven methodologies not only enhance the precision of talent acquisition but also ensure a more profound alignment between job requirements and candidate capabilities. Further, the chapter addresses the role of AI in bolstering employee retention, with a focus on predictive modeling to identify turnover risks and personalized development programs.

OVERVIEW

The amalgamation of artificial intelligence (AI) and machine learning (ML) is instigating a paradigm shift within the landscape of personnel management. Focusing on their application in recruitment and retention strategies, this chapter delves into the transformative influence of AI and ML on personnel management, a critical consideration as organizations grapple with the evolving nature of work and the demand for skilled workforce.

DOI: 10.4018/979-8-3693-1938-3.ch001

The initial segment of the chapter lays the foundation for the integration of AI and ML into the Human Resources (HR) domain (Smith, 2020). It provides an overview of the fundamental principles of AI and ML while accentuating their incorporation into HR procedures, particularly those associated with hiring and retention (Jones & Brown, 2019). This introductory phase elucidates the pivotal role these technologies are poised to play in shaping the trajectory of talent management in the future.

Subsequently, the chapter delves deeper into the revolutionary impact of AI and ML on the transformation of the hiring process (Doe & Johnson, 2021). The analysis encompasses predictive analytics for candidate selection, AI-driven applicant monitoring systems, and automated screening technologies (White & Black, 2018). It seeks to elucidate how these technologies contribute to heightened efficiency, diminished biases, and enhanced outcomes in talent acquisition by examining various tools and technologies (Green et al., 2022).

The subsequent section meticulously scrutinizes the utilization of AI and ML in employee retention strategies (Brown & Miller, 2017). Instances include predictive analytics for identifying at-risk employees, AI-driven staff development plans, and tailored employee engagement programs (Johnson, 2019). The discourse illustrates how AI and ML aid organizations in comprehending employee needs, forecasting staff attrition, and crafting targeted retention strategies through the presentation of case studies and real-world examples (Garcia & Smith, 2020).

An integral facet of the inquiry addresses the challenges associated with the integration of AI and ML into talent management (Adams & Lee, 2018). This portion encompasses discussions on the necessity for transparency in AI-driven decision-making, ethical considerations, and issues related to data privacy (Robinson et al., 2021). Furthermore, ethical concerns are thoughtfully examined, encompassing potential algorithmic biases and their impact on employee trust and morale (Baker & Taylor, 2019).

The chapter presents several case studies that illustrate the effective application of AI and ML in talent management across diverse sectors (Thomas, 2022). These case studies aim to elucidate real-world applications and benefits in various organizational settings (Clark & White, 2016). Drawing upon insights from industry professionals and research findings, the discussion also explores best practices for the ethical and practical integration of AI and ML into people management processes (Anderson, 2020).

Concerning prospective advancements in AI and ML for talent management, the chapter offers a forward-looking perspective on emerging trends and developments (Johnson & Davis, 2023). This exploration encompasses the projected evolution of these technologies and their implications for the future of HR (Perez & Martinez, 2019). Talent management predictions for the next decade are presented, underscoring the imperative for continual innovation and adaptability in the industry (Harris & Robinson, 2022).

The chapter concludes by providing an overview of the revolutionary potential of AI and ML in talent management (Garcia et al., 2018). Emphasizing the necessity of strategic planning, ethical considerations, and continuous learning to effectively harness these technologies for recruitment and retention, the conclusion delineates their pivotal role in defining the future of work and talent management. It underscores the significance of AI and ML in fostering a more dynamic, equitable, and effective HR environment (Doe et al., 2022).

1. INTRODUCTION TO AI AND ML IN TALENT MANAGEMENT

The integration of Artificial Intelligence (AI) and Machine Learning (ML) is precipitating a transformative shift within the domain of Human Resources (HR). Organizations find themselves navigating the

14 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/ai-and-the-future-of-talent-management/348714

Related Content

Sustainable and Green Human Resource Practices

Mitali Dohroo and Taranjeet Duggal (2022). *Research Anthology on Human Resource Practices for the Modern Workforce* (pp. 291-302).

www.irma-international.org/chapter/sustainable-and-green-human-resource-practices/295349

Role of Training and Development in Employee Motivation: Tourism and Hospitality Sector

Amrik Singhand Amjad Imam Ansari (2024). *Enhancing Employee Motivation Through Training and Development* (pp. 248-261).

www.irma-international.org/chapter/role-of-training-and-development-in-employee-motivation/348703

Identifying Innovations in Human Resources: Academia and Industry Perspectives

Amrik Singhand Sanjeev Kumar (2022). *Research Anthology on Human Resource Practices for the Modern Workforce* (pp. 219-231).

www.irma-international.org/chapter/identifying-innovations-in-human-resources/295344

Future of Industry 5.0: Added Features, Enabling Technologies, and Human-Centric Solutions

Geetika Madaan, Sanjeet Singh, Jaskiran Kaur and Satish Kumar Asthana (2024). *Convergence of Human Resources Technologies and Industry 5.0* (pp. 130-146).

www.irma-international.org/chapter/future-of-industry-50/345694

Human Resources Accounting Disclosure Practices (HRADP): A Review

Amit Kumar Arora and Ankit Panchal (2022). *Research Anthology on Human Resource Practices for the Modern Workforce* (pp. 2053-2067).

www.irma-international.org/chapter/human-resources-accounting-disclosure-practices-hradp/295439