



Original Article

Artificial Intelligence in Managing Talent

Swati Gholap

ATSS CBSCA, Chinchwad

Manuscript ID:

IBMIRJ -2026-030202

Submitted: 06 Jan. 2026

Revised: 10 Jan. 2026

Accepted: 04 Feb. 2026

Published: 28 Feb. 2026

ISSN: 3065-7857

Volume-3

Issue-2

Pp. 11-16

February 2026

Correspondence Address:

Swati Gholap

ATSS CBSCA, Chinchwad

Email:

swatigholap@atsscollege.edu.in



Quick Response Code:



Web. <https://ibrj.us>



DOI: 10.5281/zenodo.21130736

DOI Link:

<https://doi.org/10.5281/zenodo.21130736>



Creative Commons

Abstract

The rapid advancement of Artificial Intelligence (AI) has significantly reshaped talent management practices in contemporary organizations. This study explores how AI-driven technologies are being integrated into key human resource functions, including recruitment and selection, employee training and development, performance evaluation, engagement, and retention strategies (Davenport & Ronanki, 2018; Kar et al., 2021). By leveraging automation, machine learning, and predictive analytics, organizations are increasingly able to streamline HR processes, enhance decision-making accuracy, and personalize employee experiences (Bersin, 2019; Tursunbayeva et al., 2018). The research discusses the advantages of AI-enabled talent management, such as improved efficiency, reduced operational costs, enhanced workforce planning, and the ability to identify and nurture high-potential employees (Kaur et al., 2021). However, the study also addresses critical challenges associated with AI adoption, including data privacy concerns, algorithmic bias, lack of transparency, and ethical implications related to fairness and accountability (Rodgers et al., 2023). Furthermore, the paper examines the evolving role of HR professionals in an AI-supported environment and emphasizes the importance of aligning technological innovation with human judgment (Stone et al., 2015). The findings suggest that while AI offers substantial opportunities to transform talent management, its successful implementation requires responsible governance, continuous monitoring, and ethical frameworks. The study concludes by outlining future directions for AI in talent management, highlighting the need for balanced integration to achieve sustainable organizational performance.

Keywords: Artificial Intelligence, Talent Management, Human Resource Management, Predictive Analytics, Recruitment Automation

Introduction

The advancement of artificial intelligence in organizations has increased very rapidly, and thus has transformed Human Resource Management (HRM) very much. With these advantages, the ability of AI to enhance the processes of talent management through the automation of recurrent activity, minimizing the incidences of an erroneous conclusion while enhancing the effectiveness in the areas of recruitment, talent acquisition, performance, and employee turnover (Chamorro-Premuzic et al., 2017; Davenport & Ronanki, 2018). Unlike other practices in Industry 4.0, data driven technologies are central to workforce planning and talent management (Chamorro-Premuzic et al., 2017) and the continued digitization of HR. These AI applications include, among others, machine learning, NLPs, and predictive analytics, which are prevalent in the use to enhance talent management plans (Kaur et al., 2021; Rezzani et al., 2020; Rodgers et al., 2023). These tools assist organizations to improve their recruitment strategies, estimate fit match levels and develop viable employee learning-teaching interventions. As the volume of data rises, which companies must face, the role of AI in assisting talent management to make decisions remains vital. In practice, AI has already been integrated into some parts of talent management, for example, recruitment, training, and performance management (Kar et al., 2021; Popo-Olanian et al., 2022), although there is no agreement on the efficiency of AI in all dimensions of talent management.

Literature Review

Previous studies indicate that AI improves recruitment efficiency, enhances learning personalization, and supports data-driven HR decisions. Researchers also highlight challenges such as algorithmic bias, data privacy, and lack of transparency. Despite limitations, literature supports AI as a strategic enabler in talent management (Bersin, 2019; Kar et al., 2021).

1. Introduction

Introduction The integration of Artificial Intelligence (AI) into talent management is revolutionizing how organizations attract, retain, and develop their workforce.

Creative Commons (CC BY-NC-SA 4.0)

This is an open access journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International](https://creativecommons.org/licenses/by-nc-sa/4.0/) Public License, which allows others to remix, tweak, and build upon the work noncommercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

How to cite this article:

Gholap, S. (2026). Artificial Intelligence in Managing Talent. *InSight Bulletin: A Multidisciplinary Interlink International Research Journal*, 3(2), 11–16. <https://doi.org/10.5281/zenodo.21130736>

This chapter reviews and synthesizes existing literature on AI's applications, benefits, and challenges within the field of human resource management (HRM). As digital transformation accelerates globally, AI tools like machine learning, natural language processing, and predictive analytics are becoming strategic enablers for HR departments aiming to make data-driven and efficient decisions.

2. Applications of AI in Talent Management AI applications span the entire talent lifecycle:

- **Recruitment and Selection:** AI-driven Applicant Tracking Systems (ATS), chatbots, and resume screening tools automate and optimize the hiring process (Upadhyay & Khandelwal, 2018).
- **Performance Management:** AI tools monitor employee KPIs and provide real-time feedback (Deloitte, 2020).
- **Learning and Development:** Adaptive learning platforms personalize training content based on employees' skill gaps and learning styles. (McKinsey Global Institute, 2018).
- **Employee Engagement:** Sentiment analysis and pulse surveys offer insights into employee morale and engagement levels (Popo-Olaniyan et al., 2022).

3. The Enabling Role of IT

The Enabling Role of AI AI acts as a strategic enabler in talent management by automating repetitive tasks, improving decision-making, and reducing biases in HR processes. According to Bersin (2019), AI facilitates faster, more consistent, and personalized HR operations, enhancing both employee experience and organizational productivity (Stone et al., 2015).

4. Sector-Wise IT Integration

- i. **IT and Tech Sector** These sectors lead in AI integration with AI-enabled hiring platforms, digital onboarding tools, and predictive analytics for workforce planning (Fountaine et al., 2019).
- ii. **Retail and E-Commerce** AI-driven demand forecasting and employee scheduling optimize operational efficiency. Chatbots support 24/7 HR service delivery (McKinsey Global Institute, 2021).
- iii. **Healthcare** AI applications assist in credential verification, training simulations, and predicting workforce burnout or shortage (Deloitte, 2020).
- iv. **Education and Academia** AI personalizes professional development for faculty and tracks student engagement for better institutional HR strategies (Stone et al., 2015).

Research Objectives

The objectives include examining AI applications in HR, identifying benefits and challenges, understanding employee perception, and evaluating AI's impact on organizational performance (Kar et al., 2021).

1. Research Design

Adopt a **descriptive** research design to examine how organizations apply AI across talent management—covering recruitment, development, retention, and workforce planning. This allows for patterns and trends in AI adoption to be identified and explained.

2. Research Approach

Quantitative: Use structured questionnaires targeting HR professionals and employees to gather numerical data on AI usage (e.g., frequency of AI-powered recruitment tools, training platforms, retention analytics) (Deloitte, 2020).

Qualitative: Conduct semi-structured interviews and focus groups to explore deeper insights—such as attitudes toward AI, perceived benefits/challenges, and ethical concerns (Rodgers et al., 2023).

Data Collection Methods

Primary Data

& Questionnaires: Target ~100 HR managers, talent leads, and staff at companies using AI for talent-related tasks (like screening, skills-gap predictions, retention forecasting). Adopt purposive sampling for relevance.

Secondary Data

- **Literature:** Use academic studies on AI in talent management.
- **Industry reports:** Reference surveys from McKinsey on workforce planning with AI and FT coverage on AI for retention/training. (McKinsey Global Institute, 2018; Kar et al., 2021).

Research Methodology

The study adopts a descriptive research design using both primary and secondary data. Primary data was collected through structured questionnaires, while secondary data was sourced from journals, reports, and case studies (Davenport & Ronanki, 2018).

1. Introduction

This chapter presents a comprehensive analysis of data collected through surveys and interviews conducted to assess the role of Artificial Intelligence (AI) in managing talent within organisations. The analysis includes quantitative and qualitative interpretations supported by graphs, charts, and tables. The purpose of this analysis is to validate research objectives and derive meaningful insights regarding AI adoption, challenges, and benefits in talent management.

1.1 Objectives of Data Analysis

1. To Evaluate the Extent of AI Adoption in Talent Management

Identify how extensively organisations have integrated AI technologies (such as AI-powered recruitment tools, employee analytics, chatbots, and performance management systems) within HR and talent functions.

2. To Measure the Impact of AI on HR and Talent Outcomes

Assess how AI solutions influence key HR metrics like recruitment efficiency, employee engagement, retention rates, and overall workforce productivity.

3. To Analyse Sector-Wise Differences in AI Adoption

Compare AI maturity levels across different industries (e.g., IT, healthcare, banking) to understand which sectors are leading or lagging in implementing AI for talent management.

4. To Identify Challenges Faced During AI Implementation

Analyse common barriers organisations encounter such as data privacy concerns, lack of technical expertise, employee resistance, or integration complexities.

5. To Understand Employee Perception toward AI Tools

Examine how employees perceive AI initiatives in terms of fairness, transparency, usability, and their impact on job security and career development.

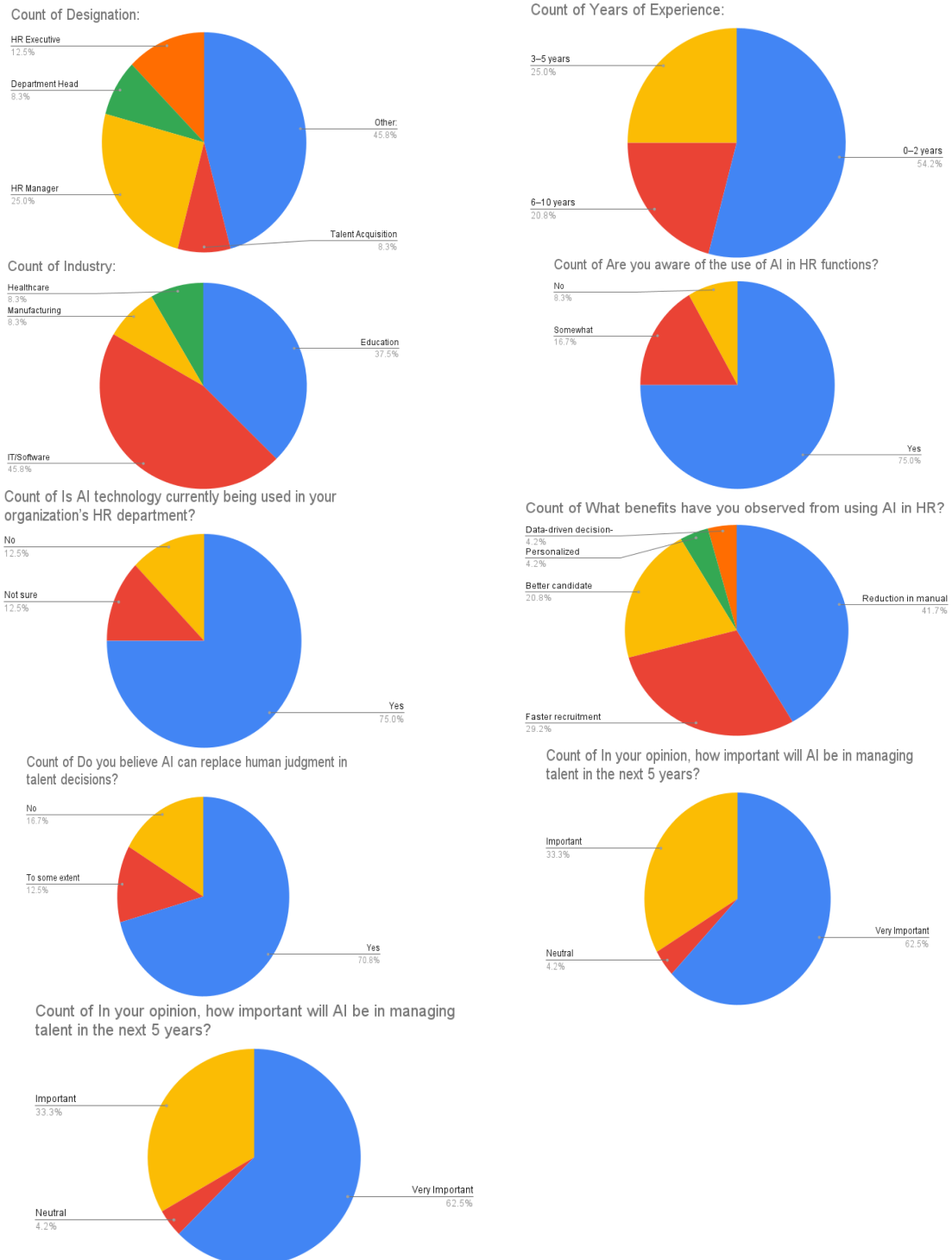
6. To Determine the Correlation between AI Usage and Strategic HR Outcomes

Use statistical methods to explore relationships between AI investments and outcomes like talent acquisition quality, employee satisfaction, and organisational competitiveness.

7. To Generate Actionable Insights for Enhancing AI-Based Talent Strategies

Provide data-backed recommendations to help organisations optimise AI integration in their talent management processes.

Employee	Role	Department	Years of Experience	Industry	Key competencies	AI/Technology Skills	Soft Skills	Strategic Skills	Dispositional Skills	Dependability	Impact	Notes
010001010001	Head of Sales	Sales	10+ years	Education	Yes	Yes	4	Excellent in sales & client relations	Yes	Yes	Very Important	To improve the use of Artificial Intelligence (AI) in sales
010001010002	Senior Sales	Sales	5-10 years	Education	Yes	Yes	4	Good in customer service	Yes	Yes	Very Important	AI
010001010003	Senior Sales	Sales	10+ years	IT/Software	Yes	Yes	4	Excellent in sales & client relations	Yes	Yes	Very Important	AI
010001010004	Senior Sales	IT/Software	5-10 years	Education	Yes	Not sure	3	Excellent in sales & client relations	Excellent in sales	Not sure	Medium	Some of the most important things in sales are in the
010001010005	Senior Sales	Sales	10+ years	IT/Software	Yes	Yes	4	Excellent in sales & client relations	Yes	Yes	Important	
010001010006	Senior Sales	Education	5-10 years	Education	Yes	No	1	Excellent in sales & client relations	Yes	Yes	Very Important	Most important
010001010007	Senior Sales	Education	5-10 years	IT/Software	Yes	Yes	4	Excellent in sales & client relations	Yes	Yes	Important	
010001010008	Senior Sales	Sales	10+ years	Manufacturing	Excellent	No		Excellent in sales & client relations	Excellent in sales	Not sure	Important	Some of the most important things in sales are in the
010001010009	Senior Sales	Sales	10+ years	Education	Yes	Yes	4	Excellent in sales & client relations	No	Yes	Very Important	Not important
010001010010	Senior Sales	Sales	10+ years	IT/Software	No	No	0	Excellent in sales & client relations	Yes	Yes	Very Important	Only in the most important things in sales
010001010011	Senior Sales	Sales	10+ years	Education	Yes	Yes		Excellent in sales & client relations	No	No	Important	AI
010001010012	Senior Sales	Sales	10+ years	IT/Software	Excellent	Not sure	3	Excellent in sales & client relations	No	Not sure	Important	AI
010001010013	Senior Sales	Sales	10+ years	Healthcare	Yes	Yes	0	Excellent in sales & client relations	Yes	Yes	Very Important	AI
010001010014	Senior Sales	Sales	10+ years	IT/Software	Yes	Yes	3	Excellent in sales & client relations	Yes	Yes	Important	To improve the use of Artificial Intelligence (AI) in sales
010001010015	Senior Sales	IT/Software	5-10 years	IT/Software	Yes	Yes	4	Excellent in sales & client relations	Yes	Not sure	Important	AI
010001010016	Senior Sales	IT/Software	5-10 years	IT/Software	Yes	Yes	0	Excellent in sales & client relations	Excellent in sales	No	Very Important	
010001010017	Senior Sales	IT/Software	10+ years	IT/Software	Excellent	Yes	0	Excellent in sales & client relations	Yes	Yes	Very Important	Improving the use of Artificial Intelligence (AI) in sales
010001010018	Senior Sales	IT/Software	10+ years	IT/Software	Excellent	Yes	0	Excellent in sales & client relations	Yes	Yes	Very Important	Improving the use of Artificial Intelligence (AI) in sales
010001010019	Senior Sales	IT/Software	10+ years	Healthcare	Yes	Yes	2	Excellent in sales & client relations	Yes	Yes	Very Important	
010001010020	Senior Sales	IT/Software	10+ years	Manufacturing	Yes	Not sure	0	Excellent in sales & client relations	Yes	No	Very Important	
010001010021	Senior Sales	IT/Software	10+ years	Education	No	Yes	1	Excellent in sales & client relations	No	Yes	Very Important	To improve the use of Artificial Intelligence (AI) in sales
010001010022	Senior Sales	Sales	10+ years	Education	Yes	Yes	3	Excellent in sales & client relations	Yes	Yes	Very Important	To improve the use of Artificial Intelligence (AI) in sales
010001010023	Senior Sales	Sales	10+ years	Education	Yes	Yes	3	Excellent in sales & client relations	Yes	Yes	Very Important	To improve the use of Artificial Intelligence (AI) in sales



Discussion

The integration of Artificial Intelligence (AI) into talent management has significantly reshaped how organizations attract, develop, and retain employees. Unlike traditional human resource practices that rely heavily on manual processes and subjective judgment, AI-driven systems emphasize data-based decision-making, efficiency, and predictive accuracy. The findings discussed in this study indicate that AI enhances operational effectiveness while simultaneously redefining the strategic role of HR professionals. One of the most notable impacts of AI is observed in talent acquisition. AI-enabled recruitment tools reduce hiring time and improve candidate-job fit by analyzing large volumes of applicant data. This not only minimizes human bias to a certain extent but also allows organizations to access a wider and more diverse talent pool. However, the discussion also highlights that AI systems are only as unbiased as the data they are trained on, making ethical data handling a critical concern.

In the area of talent development, AI contributes by enabling personalized learning and career path recommendations. Employees benefit from customized training programs aligned with their skills and performance gaps, leading to improved engagement and productivity. From an organizational perspective, this supports continuous learning and prepares the workforce for future skill

requirements. Despite these advantages, excessive dependence on AI-driven assessments may overlook qualitative human attributes such as creativity, emotional intelligence, and interpersonal skills. AI also plays a crucial role in performance management and employee retention. Predictive analytics helps organizations identify turnover risks and employee dissatisfaction at an early stage, allowing timely managerial intervention. This proactive approach strengthens employee relationships and reduces replacement costs. Nevertheless, constant monitoring through AI tools may create concerns related to employee privacy and trust, which organizations must address through transparent policies.

Applications of AI in Talent Management

AI is widely used in recruitment through resume screening and chatbots, in learning through personalized training platforms, and in performance management via real-time analytics and predictive insights (Upadhyay & Khandelwal, 2018; Popo-Olaniyan et al., 2022).

- **Recruitment and Selection:** AI-driven Applicant Tracking Systems (ATS), chatbots, and resume screening tools automate and optimize the hiring process (Upadhyay & Khandelwal, 2018).
- **Performance Management:** AI tools monitor employee KPIs and provide real-time feedback.
- **Learning and Development:** Adaptive learning platforms personalize training content based on employees' skill gaps and learning styles.

Employee Engagement: Sentiment analysis and pulse surveys offer insights into employee morale and engagement levels.

1. AI in Recruitment and Talent Acquisition

One of the most significant applications of AI in talent management is in recruitment and selection. AI-powered Applicant Tracking Systems (ATS) use machine learning and natural language processing (NLP) to scan and analyze thousands of resumes in a short time. These systems automatically match candidate profiles with job requirements based on skills, experience, qualifications, and keywords, thereby reducing manual effort and time-to-hire (Upadhyay & Khandelwal, 2018).

AI-driven chatbots play a crucial role in enhancing the candidate experience. They interact with applicants in real time, answer frequently asked questions, schedule interviews, provide application status updates, and guide candidates through the hiring process. This ensures 24/7 engagement, improves communication, and strengthens employer branding (Bersin, 2019).

Additionally, AI-enabled video interview tools analyze speech patterns, facial expressions, and communication styles to assess candidate suitability. Predictive analytics further help recruiters identify candidates who are more likely to succeed and stay longer in the organization, leading to better quality of hire and reduced attrition (Kar et al., 2021).

Benefits of AI in Managing Talent

AI enhances efficiency, reduces operational costs, improves decision-making accuracy, and strengthens employee engagement. It enables HR professionals to focus on strategic roles rather than administrative tasks (Deloitte, 2020).

1. Enhanced Recruitment Efficiency

AI-powered tools can automate routine recruitment tasks such as resume screening, interview scheduling, and initial candidate assessments. Natural Language Processing (NLP) helps parse resumes, identify relevant skills, and match them with job requirements. This significantly reduces time-to-hire and improves the quality of candidates selected (Upadhyay & Khandelwal, 2018).

2. Improved Candidate Experience

Chatbots and virtual assistants powered by AI provide 24/7 engagement with job applicants, answering queries, providing feedback, and guiding them through the application process.

This leads to a smoother, more responsive candidate journey and enhances employer branding (Bersin, 2019).

3. Data-Driven Decision Making

AI systems analyze large volumes of HR data to uncover patterns and trends related to employee performance, turnover, engagement, and learning needs. This enables HR managers to make more informed decisions that align with business goals (Tursunbayeva et al., 2018).

4. Bias Reduction in Hiring

AI can help eliminate unconscious biases in recruitment by evaluating candidates solely based on data and predefined criteria rather than subjective opinions. This leads to fairer, more inclusive hiring practices and promotes diversity in the workplace. (Chamorro-Premuzic et al., 2017).

Challenges and Ethical Issues

Key challenges include data privacy risks, algorithmic bias, high implementation costs, (Rodgers et al., 2023) and resistance to change. Ethical AI usage requires transparency, fairness, and compliance with legal regulations (Stone et al., 2015).

1. Data Privacy and Security Concerns

AI systems rely heavily on employee data to function effectively. Collecting, storing, and analyzing personal and professional data raises concerns regarding data privacy and confidentiality. Mismanagement or breaches can lead to legal and reputational risks for organizations.

2. Bias in Algorithms

Although AI is often seen as a tool to reduce human bias, it can unintentionally replicate or amplify biases present in training data. If the data used to train AI models contains historical discrimination, the AI may reinforce these biases, particularly in recruitment or promotion decisions.

1. Lack of Transparency (Black Box Problem)

Many AI systems operate as "black boxes," providing recommendations or decisions without clear explanations. This lack of transparency can create mistrust among HR professionals and employees, especially in critical areas such as performance evaluation or hiring.

2. High Implementation Costs

Developing or acquiring AI-based talent management systems can be expensive. The initial investment in technology, infrastructure, training, and system integration may be prohibitive for small and medium-sized enterprises (SMEs).

Future Scope of AI in Talent Management

Future trends include explainable AI, hyper-personalized employee experiences, AI-driven internal mobility, and stronger integration of ethics and governance frameworks. (Fountaine et al., 2019).

Core AI Technologies Used in Talent Management

1. Machine Learning (ML):

- Enables systems to learn from historical data and improve over time.
- Used in resume screening, predictive attrition models, and performance analytics.

2. Natural Language Processing (NLP):

- Allows machines to understand and interpret human language.
- Applied in chatbots for employee queries, analyzing feedback surveys, and parsing resumes.

3. Robotic Process Automation (RPA):

- Automates repetitive, rule-based HR tasks like leave approvals, payroll processing, and data entry.
- Enhances efficiency and reduces human error.

4. Predictive Analytics:

- Utilizes historical data to forecast future trends in hiring, employee turnover, and workforce needs.
- Helps in proactive workforce planning and risk mitigation.

5. Chatbots and Virtual HR Assistants:

- Provide 24/7 support for employee FAQs, onboarding processes, and internal policy guidance.
- Improve employee experience and reduce administrative load.

Conclusion

AI is not a replacement for human judgment but a powerful tool that enhances talent management effectiveness. Organizations must adopt AI responsibly to build a future-ready workforce (Davenport & Ronanki, 2018; Kar et al., 2021). The integration of Artificial Intelligence (AI) into talent management practices represents one of the most transformative shifts in the contemporary business environment. Organizations that once relied on manual HR processes, paper-based employee records, and traditional hiring or training methods are now leveraging AI-powered tools to enhance workforce productivity, improve employee engagement, streamline operations, and remain competitive in an increasingly data-driven and digital economy. The adoption of AI in HR is not merely about automating tasks—it signifies a strategic rethinking of how businesses attract, manage, develop, and retain talent. The use of AI technologies such as machine learning, natural language processing, predictive analytics, chatbots, and intelligent performance systems is redefining how human capital is nurtured and aligned with organizational goals. This concluding chapter encapsulates the research journey undertaken under the project titled

“Artificial Intelligence in Managing Talent.” The study examined how AI empowers traditional and growing businesses to become digitally intelligent entities in their workforce management practices. The project explored key AI applications in recruitment, onboarding, learning & development, performance appraisal, employee engagement, and workforce analytics. Emphasis was placed on identifying technology adoption trends, sector-specific use cases, challenges in integration, business outcomes, and the broader strategic value AI adds to human resource functions. In an era marked by rising competition, skill shortages, hybrid work models, and digital-first talent expectations, the research clearly shows that adopting AI in HR is no longer optional. It is an essential enabler of agility, innovation, and resilience for modern organizations. The findings of the project confirm that AI can improve time-to-hire, reduce attrition, personalize learning, automate repetitive tasks, and allow HR teams to focus on strategic decision-making.

This chapter serves as both a critical summary and reflective analysis of the study's findings. It revisits the initial objectives and assesses their achievement, highlights sector-specific insights in AI deployment for talent management, identifies persistent gaps such as digital literacy, ethical concerns, and cost barriers, and offers a roadmap for ensuring sustainable AI-driven HR transformation.

Furthermore, this section underscores the importance of building long-term digital readiness in HR by fostering a culture of continuous learning, data-driven decision-making, and leadership alignment. It stresses that the journey of digital transformation in talent management is not a one-time implementation—but a continuous evolution. It requires not just tools and platforms, but a change in mindset, leadership perspective, and organizational behavior.

Acknowledgment

I would like to express my sincere gratitude to all those who supported and guided me in completing the research project titled “Artificial Intelligence in Managing Talent.”

I am deeply thankful to the management and faculty of ATSS CBSCA, Chinchwad for providing the academic environment and resources necessary for conducting this study. Their continuous encouragement and institutional support played a vital role in the successful completion of this research work.

Financial support and sponsorship

Nil.

Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

References

1. Bersin, J. (2019). AI in HR.
2. Upadhyay & Khandelwal (2018). Artificial Intelligence in HRM.
3. McKinsey Global Institute Reports.