

RESPONSIBLE AND SUSTAINABLE GENERATIVE AI ADOPTION IN TALENT MANAGEMENT: AN INTEGRATED THEORETICAL FRAMEWORK

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ABSTRACT

Generative Artificial Intelligence (GenAI) is creating new possibilities for Human Resource Management (HRM), particularly in the strategic management of organizational talent. Its capabilities in content generation, information processing and intelligent assistance can support various talent management activities, including recruitment and selection, employee learning and development, performance management, succession planning and employee retention. Although existing research has examined the use of artificial intelligence in recruitment and HR analytics, the application of GenAI across the complete talent management lifecycle remains insufficiently integrated into a comprehensive conceptual perspective. This paper addresses this gap by proposing an integrated framework for responsible GenAI adoption based on the Technology Acceptance Model (TAM), Resource-Based View (RBV), Dynamic Capabilities Theory and Sociotechnical Systems Theory. The framework explains how technology acceptance, organizational resources, adaptive capabilities and human–technology alignment can facilitate effective GenAI implementation. It also highlights major concerns associated with adoption, including algorithmic bias, employee data protection, transparency, trust, accountability and regulatory compliance. Using a descriptive conceptual approach based on secondary sources, the paper examines the potential contribution of GenAI to talent management effectiveness, employee development, organizational agility and innovation. The study further presents managerial recommendations and identifies opportunities for future empirical investigation. The proposed framework contributes to the theoretical understanding of responsible AI integration and offers practical guidance for organizations seeking to develop ethical, adaptable and sustainable talent management practices

Keywords: Generative Artificial Intelligence, Talent Management, Human Resource Management, Strategic Human Resource Management, Organizational Agility, Employee Development, Digital Transformation.

INTRODUCTION

The rapid advancement of digital technologies has significantly transformed the way organizations manage their human resources. Among these technological developments, Generative Artificial Intelligence (GenAI) has emerged as an important innovation with the potential to reshape human resource management (HRM) through intelligent automation, data-driven decision-making, and personalized employee experiences. Unlike conventional artificial intelligence, which primarily focuses on analysing existing data, identifying patterns, and supporting predictions, GenAI can generate new content, formulate strategic recommendations, develop customized learning materials, prepare job descriptions, and support workforce planning. These capabilities offer organizations new opportunities to improve the efficiency, effectiveness, and strategic value of talent management practices.

In an increasingly competitive business environment, talented employees are regarded as an essential source of organizational success and sustainable competitive advantage. Talent management has therefore gained strategic importance, extending beyond conventional recruitment and administrative activities to encompass talent attraction, development, engagement, retention, and succession planning. Organizations are increasingly integrating digital technologies into these functions to strengthen workforce capabilities, improve employee experiences, and align human resource practices with long-term organizational objectives.

The adoption of Generative AI offers considerable opportunities to transform talent management processes. In talent acquisition, GenAI can assist in developing job descriptions, generating recruitment content, and supporting candidate communication. In learning and development, it can facilitate personalized training materials, adaptive learning experiences, and competency development. Similarly, GenAI can support career planning, performance management, workforce analysis, and succession planning by generating insights and recommendations based on relevant organizational information. These applications may enable organizations to respond more effectively to evolving skill requirements, improve operational efficiency, and make more informed talent-related decisions.

Despite these potential benefits, the integration of GenAI into talent management also raises important concerns relating to algorithmic bias, data privacy, transparency, accountability, employee trust, and regulatory compliance. Excessive reliance on AI-generated recommendations may affect the fairness of employment decisions, while inadequate human oversight can undermine employee confidence and organizational accountability. Furthermore, the successful implementation of GenAI depends on technological readiness, employee acceptance, organizational capabilities, and appropriate governance mechanisms. Therefore, organizations must balance technological innovation with ethical responsibility and meaningful human involvement.

Although existing discussions of artificial intelligence in HRM have examined areas such as recruitment automation, HR analytics, and employee development, an integrated understanding of GenAI adoption across the broader talent management process remains important. A comprehensive perspective is needed to explain how organizations can adopt GenAI responsibly while developing workforce capabilities, strengthening organizational adaptability, and creating sustainable value. Addressing this need, the present study examines the applications of GenAI across key talent management functions and develops an integrated conceptual framework for responsible adoption. Drawing on the Technology Acceptance Model (TAM), the Resource-Based View (RBV), Dynamic Capabilities Theory, and Sociotechnical Systems Theory, the study seeks to connect technology acceptance, strategic resources, organizational adaptability, and the alignment of technological and human factors. The proposed framework provides a foundation for understanding how responsible GenAI adoption may contribute to more effective, inclusive, and sustainable talent management.

LITERATURE REVIEW

Davis (1989), through the Technology Acceptance Model (TAM), proposed that perceived usefulness and perceived ease of use are important determinants of technology acceptance. In the context of GenAI-enabled talent management, employees and HR professionals are more likely to adopt GenAI when they perceive it as useful and relatively easy to use.

Barney (1991), through the **Resource-Based View (RBV)**, argued that valuable organisational resources and capabilities can contribute to sustained competitive advantage. From a GenAI perspective, AI technologies, employee expertise, organisational knowledge,

and HR capabilities can collectively become strategic resources when they are effectively integrated into organisational processes. Thus, GenAI may create value not merely through technological adoption but through its combination with human capabilities and organisational resources.

Teece, Pisano and Shuen (1997), through the **Dynamic Capabilities Theory**, emphasised the ability of organisations to sense opportunities, seize them, and transform or reconfigure resources in response to changing environments. This perspective is particularly relevant to GenAI adoption because organisations must continuously adapt their HR practices, employee capabilities, and organisational processes as AI technologies evolve.

Deepa et al. (2024), in their study *AI Technologies and HR Manager Competencies*, conducted a systematic review and bibliometric analysis of AI adoption in HRM. The study found that effective AI adoption requires managerial cognitive capabilities, human capital, and social capital. It also identified recruitment and selection as major areas of AI application and highlighted the importance of developing appropriate competencies among HR manager

Li and Cheng (2025), in *ChatGPT in HRM*, systematically reviewed 115 studies examining the integration of ChatGPT into HRM. Their findings indicate that generative AI is being applied across several HR functions, including human resource planning, recruitment and selection, training and development, compensation, and performance management. The study further identified technological, organisational, and environmental factors influencing adoption and suggested the need for further research into the individual and organisational outcomes of GenAI implementation.

Theódórsson and Dosanjh (2026), in *AI in Talent Management*, reviewed 124 peer-reviewed studies published between 2000 and 2025. The findings show that AI is being used across recruitment, learning and development, performance management, and retention. The authors distinguish between augmentative AI, which supports human judgement, and autonomous AI, which can substitute for human decision-making. The study also identifies continuing research gaps concerning ethics, fairness, transparency, trust, and cross-cultural differences in AI-enabled talent management.

Fernando Garcia and Kwok (2025), in *GenAI in HRM*, examined the changing role of GenAI across the employee lifecycle. Their analysis suggests that GenAI can transform traditional HR activities while simultaneously requiring HR professionals to reconsider their roles and responsibilities. The study particularly highlights the importance of human oversight and responsible governance as GenAI becomes more integrated into HR processes.

OBJECTIVES OF THE STUDY

The study has four objectives:

1. To examine the applications of Generative AI across key talent management functions.
2. To develop an integrated framework explaining responsible GenAI adoption in talent management using TAM, RBV, Dynamic Capabilities Theory, and Sociotechnical Systems Theory.
3. To identify the major challenges associated with GenAI adoption in talent management.
4. To propose managerial and future research implications for responsible and sustainable GenAI-enabled talent management.

RESEARCH METHODOLOGY

The research is using the descriptive research design. the secondary data have been used. The secondary data has been collected from research paper, published material and online websites and survey reports published by various research organizations.

APPLICATIONS OF OF GENERATIVE AI ACROSS KEY TALENT MANAGEMENT FUNCTIONS

Generative Artificial Intelligence (GenAI) is emerging as an important technological innovation across various stages of the talent management lifecycle. Unlike conventional HR technologies that primarily automate predefined activities or analyses existing data, GenAI can generate content, synthesise information, personalize learning experiences, and assist professionals in making informed decisions. Its applications extend across talent acquisition, learning and development, performance management, succession planning, employee engagement, career development, and workforce planning. By integrating these applications into HR processes, organizations can improve operational efficiency, respond to changing skill requirements, and strengthen the strategic management of their workforce. However, the effectiveness of GenAI depends on appropriate human supervision, data quality, ethical safeguards, and alignment with organisational objectives.

Talent Acquisition

GenAI can support talent acquisition by generating job descriptions, preparing recruitment advertisements, identifying relevant competencies, developing interview questions, and assisting with candidate communication. It can also help HR professionals compare candidate information with job requirements and provide timely responses to applicants through AI-enabled conversational systems. These capabilities may reduce administrative workload, improve recruitment efficiency, and support a more consistent candidate experience. Nevertheless, the use of GenAI in candidate screening and selection requires careful human oversight, as inaccurate outputs, biased training data, and unsuitable evaluation criteria may adversely affect recruitment **fairness**.

Learning and Development

GenAI can transform learning and development by generating customized training materials, preparing learning exercises, summarizing educational resources, and recommending content according to employees' competencies and learning needs. Interactive AI applications can also provide explanations, answer employee queries, and facilitate continuous learning through personalized feedback. Within talent management, these capabilities can support upskilling, reskilling, and competency development in response to evolving occupational requirements. However, organizations should evaluate the accuracy and relevance of AI-generated learning content and ensure that learning initiatives remain aligned with employees' professional development needs and organisational priorities.

Performance Management

GenAI can assist performance management by organising performance-related information, preparing feedback drafts, summarising appraisal records, and identifying potential areas for employee development. It can also help managers generate performance review documents and facilitate more regular feedback discussions. These applications may reduce documentation requirements and support a more continuous approach to performance management. However, AI-generated recommendations should not be treated as definitive assessments of employee performance. Managerial judgement, contextual understanding,

transparent evaluation criteria, and opportunities for employees to respond remain essential for ensuring fair and meaningful performance evaluations.

Succession Planning and Talent Identification

GenAI can contribute to succession planning by synthesizing information about employee competencies, professional experience, career aspirations, and development requirements. It can assist HR professionals in identifying potential talent pools, recognizing competency gaps, and preparing individual development plans for employees being considered for future leadership or critical organisational positions. These applications may strengthen leadership development and improve organisational preparedness for workforce transitions. Nevertheless, succession decisions should incorporate multiple sources of evidence and human judgement to avoid over-reliance on historical performance, reproduce existing inequalities, or overlook employees whose potential is not adequately reflected in available data.

Employee Engagement and Retention

GenAI can support employee engagement and retention through personalized communication, automated responses to routine workplace queries, career-development assistance, and recommendations for relevant learning opportunities. It can also help HR professionals synthesise employee survey responses, feedback comments, and other authorized workforce information to identify recurring concerns regarding workplace experiences. These insights may inform initiatives relating to employee satisfaction, organisational support, and retention. However, organizations must maintain appropriate data protection practices, communicate clearly about the use of AI, and avoid intrusive monitoring that could weaken employee trust. GenAI should complement, rather than replace, meaningful communication between employees and management.

Career Development

GenAI can facilitate personalized career development by helping employees understand the relationship between their existing competencies, career aspirations, and potential professional pathways. By comparing identified skill requirements with available employee information, AI applications can suggest relevant courses, learning activities, projects, and opportunities for skill enhancement. Such recommendations may help employees plan their professional growth while enabling organizations to connect individual aspirations with future workforce requirements. Effective implementation requires transparent recommendations, opportunities for employee choice, and periodic review to ensure that suggested career pathways remain relevant and equitable.

Workforce Planning

GenAI can assist workforce planning by synthesizing workforce information, identifying emerging competency requirements, and supporting the development of alternative workforce scenarios. It can help HR professionals prepare analyses of potential skill shortages, changing job requirements, and future staffing needs. GenAI may also support the preparation of workforce planning reports and the evaluation of alternative talent-management strategies. These capabilities can strengthen organizational responsiveness in dynamic business environments. However, AI-generated projections should be evaluated against reliable data, business objectives, and changing external conditions, as inaccurate assumptions or incomplete information may lead to inappropriate workforce decision

DEVELOPING AN INTEGRATED FRAMEWORK RESPONSIBLE GENERATIVE AI (GENAI) ADOPTION IN TALENT MANAGEMENT

The proposed conceptual framework integrates four theoretical perspectives: The Technology Acceptance Model (TAM), the Resource-Based View (RBV), Dynamic Capabilities Theory, and Sociotechnical Systems Theory. The integration of these theories provides a comprehensive understanding of responsible Generative Artificial Intelligence (GenAI) adoption in talent management by considering individual acceptance, organizational resources, adaptive capabilities, and the relationship between technological systems and human factors. This multidimensional approach recognizes that the successful implementation of GenAI requires more than the availability of advanced technology; it also depends on organizational preparedness, employee participation, and responsible governance.

The **Technology Acceptance Model (TAM)**, introduced by Davis (1989), explains the role of individual perceptions in technology adoption. According to this model, perceived usefulness and perceived ease of use are important determinants of an individual's willingness to accept a technology. In GenAI-enabled talent management, HR professionals and employees may be more inclined to use AI-based applications when they believe these tools can improve work efficiency, enhance decision-making, and simplify talent management activities. Similarly, systems that are accessible and easy to operate may encourage greater user acceptance. Accordingly, perceived usefulness and perceived ease of use are incorporated into the proposed framework as key factors influencing GenAI adoption.

The **Resource-Based View (RBV)**, developed by Barney (1991), explains how organizational resources and capabilities can contribute to competitive advantage. From this perspective, the benefits of GenAI depend on how effectively organizations integrate AI technologies with existing resources, such as employee expertise, organizational knowledge, digital infrastructure, workforce data, and HR competencies. Merely acquiring GenAI tools may not generate lasting organizational value unless they are supported by appropriate skills and management capabilities. Therefore, the framework considers organizational readiness and HR capabilities as important enablers of effective GenAI implementation and value creation in talent management.

Dynamic Capabilities Theory, associated with Teece, Pisano, and Shuen (1997), highlights the ability of organizations to respond to changing environments by identifying opportunities, mobilizing resources, and transforming existing processes. The adoption of GenAI requires organizations to recognize emerging technological possibilities, incorporate suitable applications into HR activities, develop employee competencies, and modify established talent management practices. Continuous learning and organizational adaptation are particularly important because GenAI technologies and workforce requirements evolve rapidly. Within the proposed framework, dynamic capabilities explain how organizations can translate GenAI adoption into greater adaptability, innovation, and responsiveness to changing business conditions.

Sociotechnical Systems Theory emphasizes the importance of coordinating technological systems with the social and organizational environment in which they operate. Effective implementation depends on the interaction between technology, employees, managers, organizational structures, work practices, and organizational culture. In talent management, GenAI should support human judgement and professional expertise rather than replace them indiscriminately. Employee participation, transparency, trust, human oversight, and appropriate accountability mechanisms are therefore essential for responsible

implementation. This perspective ensures that technological efficiency is considered alongside employee well-being, fairness, and organizational needs.

Drawing on these four theoretical perspectives, the proposed framework identifies perceived usefulness, perceived ease of use, organizational readiness, and HR capabilities as important antecedents of GenAI adoption. These factors can influence the extent to which organizations integrate GenAI into talent management while maintaining appropriate ethical and governance standards. Responsible adoption involves safeguards relating to data privacy, transparency, fairness, accountability, employee trust, and human supervision. These safeguards are intended to ensure that GenAI applications are implemented in ways that are both organizationally effective and socially responsible.

The framework further proposes that responsible GenAI adoption can strengthen talent management activities across several functional areas, including talent acquisition, learning and development, performance management, succession planning, career development, and employee retention. Improved talent management practices may contribute to positive employee outcomes, such as enhanced learning opportunities, stronger engagement, improved career support, and greater retention. At the organizational level, these outcomes may help develop adaptive capabilities, encourage innovation, and support sustainable organizational performance.

Overall, the proposed framework establishes a conceptual relationship between technology acceptance, organizational resources, adaptive capabilities, responsible governance, and talent management outcomes. TAM explains the individual-level factors influencing technology acceptance, RBV highlights the strategic value of combining GenAI with organizational resources, Dynamic Capabilities Theory explains the process of organizational adaptation, and Sociotechnical Systems Theory emphasizes the alignment of technological innovation with human and organizational requirements. By bringing these perspectives together, the framework offers an integrated theoretical foundation for examining how organizations can adopt GenAI responsibly and use it to improve talent management while supporting long-term organizational sustainability.

CHALLENGES OF GENERATIVE AI ADOPTION IN TALENT MANAGEMENT

Although Generative Artificial Intelligence (GenAI) offers considerable opportunities to improve talent management, its implementation presents various challenges that may affect organizational effectiveness, employee well-being, and the fairness of HR practices. Successful adoption requires organizations to address technological limitations, ethical concerns, employee-related issues, and organizational barriers through appropriate policies and management practices.

Algorithmic Bias and Discrimination A significant concern in GenAI-enabled talent management is the possibility of unfair or discriminatory outcomes. AI systems may generate biased recommendations when the data used to develop or operate them contain historical inequalities, incomplete information, or inadequate representation of different employee groups. Such limitations may affect recruitment, promotion, performance evaluation, and leadership selection. To minimize these risks, organizations should periodically assess AI-generated outputs, evaluate their impact on different employee groups, and ensure that important employment decisions are subject to appropriate human review.

Protection of Employee Information The application of GenAI in HR functions frequently involves the use of confidential information relating to employees' qualifications, performance, professional development, and career progression. Inappropriate data handling,

unauthorized disclosure, or inadequate cybersecurity measures can compromise employee privacy and organizational security. The use of external AI platforms may create additional concerns regarding the storage and processing of confidential information. Organizations should establish strict data-handling procedures, implement suitable security controls, and ensure that employee information is processed in accordance with applicable privacy requirements.

Limited Transparency in AI-Generated Recommendations Another challenge concerns the difficulty of understanding the reasoning behind certain AI-generated recommendations. When the basis of an AI-supported decision is unclear, HR professionals and employees may find it difficult to assess its reliability or identify potential errors. This becomes particularly important in decisions concerning hiring, promotions, performance ratings, and succession planning. Organizations should improve transparency by providing meaningful explanations for consequential decisions wherever feasible.

Employee Resistance and Lack of Confidence Employees may have mixed reactions to the introduction of GenAI in the workplace. Concerns about job security, reduced personal interaction, continuous monitoring, and the influence of AI on career opportunities may create apprehension and resistance. Such perceptions can limit employee participation and reduce the effectiveness of implementation initiatives. Organizations should address these concerns through regular communication, employee involvement, practical demonstrations, and training programmes. Building confidence in the appropriate use of AI requires clarity about its purpose, limitations, and relationship with human decision-making.

Dependence on Technology and Reduced Human Judgement Excessive reliance on AI-generated recommendations may weaken critical evaluation and lead to decisions that overlook individual circumstances or organizational context. Talent management involves interpersonal relationships, emotional intelligence, professional experience, and an understanding of employee needs. These dimensions cannot always be adequately captured by automated systems. Therefore, GenAI should function as a decision-support mechanism rather than an unquestioned authority. HR professionals and managers must retain responsibility for evaluating recommendations, exercising professional judgement, and addressing situations that require human sensitivity.

6.Inadequate AI-Related Competencies The introduction of GenAI creates new competency requirements for HR professionals and organisational leaders. Effective implementation may require familiarity with AI tools, prompt formulation, data analysis, output verification, and responsible AI practices. Employees who lack these skills may misuse the technology, accept inaccurate information, or struggle to integrate AI into existing workflows. Organisations should strengthen AI literacy through structured training, continuous learning, and opportunities for practical experience. Developing these competencies can help HR professionals use GenAI more confidently and responsibly.

Legal Responsibilities and Ethical Governance The use of GenAI in employment-related activities raises questions concerning fairness, privacy, accountability, and compliance with applicable laws and regulations. Organizations may face difficulties determining responsibility when AI-generated recommendations contribute to an incorrect or discriminatory outcome. The absence of clear internal policies can further complicate implementation. To address these concerns, organizations should establish governance frameworks that define roles, acceptable practices, documentation requirements, review procedures, and accountability mechanisms. Regular assessments of AI applications can also help identify emerging ethical and compliance risks.

Technical Limitations and Organizational Preparedness The successful integration of GenAI depends on the availability of reliable data, appropriate digital infrastructure, sufficient financial resources, and supportive organizational leadership. Incompatibility with existing HR systems, poor data quality, implementation costs, and uncertainty about the expected benefits may restrict adoption. Furthermore, traditional organizational practices and resistance to change can delay implementation. Organizations should evaluate their technological capabilities, identify resource requirements, prepare employees for new working arrangements, and introduce AI applications in line with clearly defined strategic priorities

.Managerial and future implications

The paper highlights the importance of responsible and sustainable adoption of Generative Artificial Intelligence (GenAI) in talent management. Managers should ensure ethical AI practices, data privacy, transparency, human oversight, and employee training to enhance trust and organizational effectiveness. GenAI should be integrated into talent acquisition, learning and development, performance management, succession planning, and employee retention while maintaining fairness and accountability. Future research should empirically examine the proposed framework across different industries and investigate the impact of GenAI on employee engagement, talent retention, organizational performance, and sustainable HR practices. Further studies may also explore employee acceptance, algorithmic bias, and the role of organizational culture in responsible GenAI adoption

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