

# Artificial Intelligence Applications in Human Resource Practices: A Bibliometric Review

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## ABSTRACT

Artificial intelligence (AI) rapidly altering human resource management (HRM) by enabling digital decision-making, employe management, performance monitoring, and organizational innovation. The purpose of this study is to conduct a bibliometric analysis of evolution, theme structure, and upcoming research trends in AI applications in human resource management. Data was collected from the Scopus database, yielding 5,658 items that included journal articles and book chapters. The study used VOS viewer to assess publication features, subject areas, source types, and keyword associations, as well as network, overlay, and density visualizations. The findings show that AI-HRM research is very interdisciplinary, with significant contributions from Social Sciences, Business, Management and Accounting, and Computer Science. The keyword analysis identifies essential themes in HRM, including company, digital HRM, employe digital performance, effectiveness, and organizational outcomes. The overlay analysis also reveals rising research interests in digital economy growth, green innovation, ESG performance, and employe digital performance, indicating a trend toward integrating AI, digital transformation, and organizational sustainability. The paper indicates that future AI-HRM research should use more targeted theoretical frameworks to investigate the relationship between AI-enabled HR practices, employe skills, organizational innovation, performance, and sustainability.

**Keywords:** Artificial intelligence, human resource management, digital HRM, bibliometric analysis, and VOS viewer.

## INTRODUCTION

Artificial Intelligence (AI) has surfaced as a revolutionary technology in Human Resource Management (HRM), altering the methods by which organizations recruit, choose, nurture, assess, and retain personnel (Coronado-Maldonado & Benítez-Márquez, 2023). The growing accessibility of machine learning, natural language processing, predictive analytics, generative AI, and intelligent automation has empowered HR professionals to analyze substantial amounts of employe and workforce data, facilitating expedited, data-informed decision-making. AI applications are prominently utilized in recruitment and selection, facilitating candidate screening, job alignment, automated interviews, and talent discovery, with additional uses in performance management, employe engagement, learning and development, workforce planning, and HR service provision. Recent studies indicate that AI is increasingly integrated into various HR operations, however recruiting and selection continue to be the most thoroughly examined applications. In studying how modern technology changes workforce management, Abdullah and Saro (2026) show how digital tools upgrade human resource (HR) structures and drive industrial development. Their work highlights that artificial intelligence (AI)-powered platforms, online classrooms, and data metrics allow companies to offer highly personalized employee training pathways. Through intelligent systems, HR managers can easily track worker engagement, skill progression, and knowledge retention. This shift updates traditional personnel training into active talent upskilling. However, the study identifies clear challenges during implementation, such as severe change in resistance and digital literacy gaps among older workers. The authors conclude that technical HR

projects succeed only when backed by strong leadership and a supportive corporate learning culture.

Notwithstanding the increasing integration of AI in human resources, scholarly literature continues to be disjointed across many fields, technologies, HR roles, and research viewpoints. Current research has investigated applications including AI-driven recruitment, talent analytics, employee performance forecasting, customized learning, and automated HR decision-making; nonetheless, these investigations frequently concentrate on singular applications instead of offering an overarching view of the evolution of the research domain. (Ike and colleagues, 2023). Prior bibliometric analyses have recognized a rise in publication frequency and many nascent subject clusters, encompassing recruitment, artificial intelligence applications, ethical considerations, employee perspectives, and human AI interactions. A bibliometric analysis utilizing Scopus revealed significant expansion in AI-HRM papers, emphasizing recruitment as a primary research focus. This disintegration necessitates a more comprehensive delineation of the intellectual framework, research trajectories, key contributors, and nascent topics in AI applications within HR methodologies. This analysis compiles bibliometric data to provide a historical overview of the evolution of academic dialogue from fundamental technological frameworks to intricate human-centric and ethical considerations (Koştı & Kayadibi, 2025).

A further issue pertains to the equilibrium between the prospects and hazards linked to AI integration in human resource management. Although AI has the potential to enhance efficiency, consistency, prediction accuracy, and strategic decision-making, its use in employment-related choices also prompt apprehensions about algorithmic bias, equity, privacy, transparency, interpretability, employee monitoring, and human supervision (Odonkor et al., 2024). Investigations into responsible AI within Human Resource Management highlight that ethical and governance factors are pivotal for the effective deployment of AI, as HR choices have a direct impact on individuals' job prospects and workplace experiences. Thus, the swift growth of AI-HRM research necessitates a comprehensive evaluation of both technological implementations and the ethical, behavioral, organizational, and management aspects arising in literature. This thorough synthesis is essential due to the frequent confinement of research inside disciplinary boundaries, which restricts the establishment of a cohesive theoretical framework for comprehending the wider ramifications of human-machine collaboration (Bujold et al., 2023).

The study examines existing knowledge deficiencies and outlines prospective pathways to align organizational results with social responsibility and sustainable practices (Maghsoudi et al., 2023; Sakib & Islam, 2026). This research delineates a framework for scholars to reconcile the relationship between technological implementation and labour dynamics, addressing the intricate psychological and ethical dilemmas associated with human-machine integration (Benabou & Touhami, 2025; Sucipto, 2024). Consequently, this research fulfils the necessity for a methodical bibliometric analysis of the academic terrain related to Artificial Intelligence Applications in Human Resource Practices. The Scopus inquiry performed for this research uncovered 5,658 documents, consisting of 4,535 articles and 1,123 book chapters, with most of the literature written in English. The distribution across topic areas further illustrates the interdisciplinary character of the field, with Social Sciences (2,183), Business, Management and Accounting (1,738), and Computer Science (1,312) as the predominant domains. These trends suggest that AI-HRM research occupies a confluence on technology, management, and social sciences.

## LITERATURE REVIEW

### 2.1 Artificial Intelligence in Human Resource Management

Artificial Intelligence denotes computer systems that can execute tasks usually necessitating human intellect, such as learning, reasoning, forecasting, language comprehension, and decision-making. In the realm of Human Resource Management, artificial intelligence bolsters both operational and strategic functions, augmenting organizational efficiency and enriching employee experience. Furthermore, academic discussions increasingly depict this change as a two-pronged process that both improves decision-making accuracy and requires a reassessment of algorithmic transparency and ethical oversight (Kasubi et al., 2025). This progression signifies a shift in perspective, recognizing technological implementation not merely as a means for administrative efficiency, but as a pivotal factor affecting organizational equality and worker dynamics

(Baskara et al., 2025; Usman et al., 2026).

Contemporary research increasingly depicts AI as a versatile remedy that can enhance innovation workflows while also instigating intricate organizational difficulties (Palos-Sánchez et al., 2022). Current studies reveal contradictory tensions in which the pursuit of technological enhancement often clashes with the imperative of upholding human-centered HR methodologies. Recent advancements in technology have broadened AI applications from mere automation to sophisticated decision-making assistance. Machine learning algorithms

examine workforce data to anticipate employee attrition, recognize top-performing applicants, enhance remuneration plans, and project workforce requirements. These technologies empower HR specialists to make informed decisions based on facts that enhance organizational efficacy.

## 2.2 Artificial Intelligence in Hiring and Selection Processes

Recruitment continues to be one of the most thoroughly examined applications of AI in human resources. AI-powered recruiting platforms utilize natural language processing, predictive analytics, and machine learning to streamline candidate sourcing, resume evaluation, interview coordination, and application prioritization. These instruments markedly improve recruitment efficacy by sifting through extensive datasets to pinpoint ideal individuals, thus enabling swifter and more precise selection choices (Venugopal et al., 2024). Moreover, these apps utilize expert systems to structure specialized data into coherent frameworks, hence assisting in reducing subjective bias during preliminary talent evaluation (Rathore, 2023).

Studies indicate that AI-driven recruitment platforms markedly lower hiring expenses while enhancing recruitment efficacy. Organizations are progressively employing AI chatbots to interact with candidates, address common enquiries, and deliver instantaneous recruitment information. Predictive algorithms aid recruiters by pinpointing applicants whose skills align most closely with organizational needs. Moreover, these digital recruitment instruments alleviate cognitive biases commonly found in traditional assessment techniques, promoting a fairer selection procedure (Buchanan, 2025). Notwithstanding these developments, apprehensions about algorithmic opacity remain, requiring the establishment of comprehensive governance structures to guarantee transparency and accountability in candidate assessment (Garem, 2026; Khair et al., 2020).

Nonetheless, academics have voiced apprehensions about algorithmic partiality, equity, clarity, and moral responsibility. AI systems developed with historical organizational data could inadvertently perpetuate biased recruiting practices if not meticulously crafted and consistently overseen. Moreover, the possibility of algorithmic bias compels organizations to implement stringent auditing procedures and fairness-conscious machine learning methodologies to assess decision-making results (Vishwanath, 2023).

## 2.3 Impact of AI in HR Documentation and Administrative Management

AI is being used in HR administrative documents. Intelligent document processing automates employment contracts, onboarding, leave requests, payroll, compliance reports, and employee records. These technologies automate boring tasks, reducing human error and letting HR work on key objectives (Dima et al., 2024). Natural language processing helps AI systems find, extract, condense, and arrange organizational elements with minimum human involvement. Operations, administrative correctness, and regulatory compliance increase with this technology. Employee self-service help for internal policy and documentation enquiries via chatbots and virtual assistants improves administrative operations (Olaniyan et al., 2023). Companies can enforce labour laws and policies across employee groups with these automated systems (Bhivgade, 2025; Popo-Olaniyan et al., 2022).

HR experts use generative AI to develop job descriptions, policies, training manuals, employee communications, and performance reviews. Non-technical workers may easily develop high-quality digital assets and messaging for platforms using these generative technologies (Fenwick et al., 2024). Content production speeds up HR document preparation and increases internal communication consistency and customization (Komajwar, 2025; Lozie et al., 2024). AI automating repetitive, arduous, and data-intensive HR documentation and administrative supervision. HR personnel handle employee documentation, database

changes, form processing, letter creation, attendance record maintenance, payroll, and benefits. AI-powered HR solutions expedite data input, document categorization, information extraction, report preparation, and employe self-service, allowing HR professionals to focus on strategic and interpersonal tasks. Businesses can better match human resource operations with corporate goals by assigning these dull tasks to intelligent technology (Jude & Vinayagam, 2024; Zafar, 2023).

AI in HR promotes labor automation and HR data usage, study shows. AI enhances HR paperwork accuracy, consistency, availability, and productivity. Cognitive systems can handle employe data, identify missing records, retrieve relevant documents, and standardize HR interactions. AI can enhance HR shared services, reporting, analytics, payroll, and employe self-service. Real-time supervision of pay schemes and benefits calculations ensures compliance with changing regulatory criteria (Wójcik, 2025).

Using AI-enhanced reporting and analytics, HR departments may derive operational, informational, and compliance advantages from workforce data, allowing quicker and more data-driven administrative choices (Sithambaram & Tajudeen, 2022). Artificial intelligence was employed in recruiting, talent management, HR shared services, reporting and analytics, and self-service support at 12 Malaysian companies, giving operational, managerial, informational, and compliance benefits. AI impacts employe lifecycle administration and strategic HR choices. Consistent operation from machine learning models improves operational dependability and reduces analytical mistakes (Inampudi et al., 2025a, 2025b). Thus, integrating AI into HR documentation and administrative management is a strategic shift from manual record-keeping to intelligent, automated, and data-driven HR processes, which may improve operational efficiency, information accessibility, and decision-making but require strong data privacy, security, and ethical governance.

Additionally, HR responsiveness and organizational decision-making increase. HR managers can easily identify and produce reports by digitizing documents and employe data. AI can analyze worker data, execute administrative chores, and make speedy managerial choices. A new analysis says AI can enhance HR data utilization, talent, and work environment. Instead of responding to historical data, machine learning algorithms anticipate administrative demands for proactive staff management (Priksht et al., 2021). HR departments may transition from record maintenance to talent management and workforce strategizing with predictive capabilities (Okatta et al., 2024). AI is not a replacement for administrative workers, but rather a sophisticated support system that helps HR professionals to transition from document processing to workforce planning, employe assistance, policy formation, and strategic HR management. By removing unnecessary manual operations, operational efficiency can increase by 40% (Sundari et al., 2024). Technologies decrease human-centered biases in recruiting and selection, making candidate assessments fairer (Khan et al., 2024).

AI in HR paperwork creates privacy, security, accuracy, transparency, and supervision problems. Unauthorized access, AI faults, or excessive automation might hurt the organization and its employes because HR documents include private employe data. To guarantee algorithmic decision-making is transparent and consistent with evolving data protection laws, firms must build effective governance processes (Jain et al., 2023; Qahtani & Alsmairat, 2023). Thus, solid governance, data protection, clear ownership, and human review of HR decisions and documentation are needed for AI implementation. HR via AI has pros and downsides, especially in human–AI interaction and ethics, according to recent studies. While assuring human oversight, AI improves HR documentation and administrative administration through operational efficiency, accuracy, data-informed decision-making, and strategic HR transformation.

## METHODOLOGY

This study uses bibliometric research design. Bibliographic records will be retrieved from the Scopus database at 3.54 p.m. on August 10, 2026, using a structured search approach. Only English-language journals, conference papers, and review articles published between 2020 and 2026 will be considered. This study used bibliometric analysis to carefully investigate the development, theme structure, and upcoming research trends in Artificial Intelligence Applications in Human Resource Management (AI-HRM). Relevant publications were extracted from the Scopus database, yielding a total of 5,658 items, including journal articles and book chapters. The investigation looked at publication features, subject-area distribution, source types, and keyword co-occurrence patterns. VOS viewer was then used to create network, overlay, and density visualizations to

uncover linkages between keywords, prominent research themes, thematic concentrations, and new areas of research. The overlay visualization was used to investigate the temporal evolution of keywords, whereas the density visualization was used to highlight locations with high and low research concentration. To assess the evolving AI-HRM research landscape, keywords linked with HRM, digital HRM, firms, employee digital performance, green innovation, ESG performance, and digital economy development were specifically examined. The methodological approach gives a structured assessment of the knowledge base, assisting in the identification of established topics, developing trends, and prospective research gaps in the field.

## ANALYSIS RESULTS

Table 1. Summary of Scopus Search Results by Document Type, Subject Area, Language and Source Type

| Category      | Type                                | Number of Documents |
|---------------|-------------------------------------|---------------------|
| Document Type | Article                             | 4,535               |
|               | Book Chapter                        | 1,123               |
| Language      | English                             | 5,658               |
| Subject Area  | Social Sciences                     | 2,183               |
|               | Business, Management and Accounting | 1,738               |
|               | Computer Science                    | 1,312               |
|               | Economics, Econometrics and Finance | 1,158               |
|               | Environmental Science               | 886                 |
|               | Multidisciplinary                   | 737                 |
|               | Arts and Humanities                 | 534                 |
|               | Psychology                          | 473                 |
|               | Energy                              | 269                 |
| Source Type   | Journal                             | 4,513               |
|               | Book                                | 937                 |
|               | Book Series                         | 192                 |
|               | Trade Journal                       | 16                  |
| Total Records | —                                   | 5,658               |

Sources <https://www.scopus.com/pages/search/publications?searchId=4f242930-8f0a-4006-a945-8df70238f686>

Table 1 shows that Scopus found 5,658 relevant articles as of 11 August 2026 at 3:54 PM. Articles account for 4,535 (80.1%) of publications, while book chapters make up 1,123 (19.8%). The abundance of journal papers suggests that peer-reviewed studies have focused on the topic. All 5,658 entries are in English, indicating that the content is widely diffused in the academic community and suitable for English-language systematic or bibliometric study.

The subject area allocation suggests transdisciplinary research. Social Sciences had the most papers (2,183), followed by Business, Management, and Accounting (1,738) and Computer Science (1,312). This distribution implies that the issue touches social, organizational, managerial, and technological elements beyond academia. Economics, Econometrics, and Finance (1,158), Environmental Science (886), and Multidisciplinary Studies (737) are also relevant. Arts & Humanities (534) and Psychology (473), imply that the research domain includes human, behavioural, and societal elements. Since Scopus documents may cover multiple topics, these figures should not be considered mutually exclusive.

## 4.2 Analysis Bibliometric Analysis Network Visualization

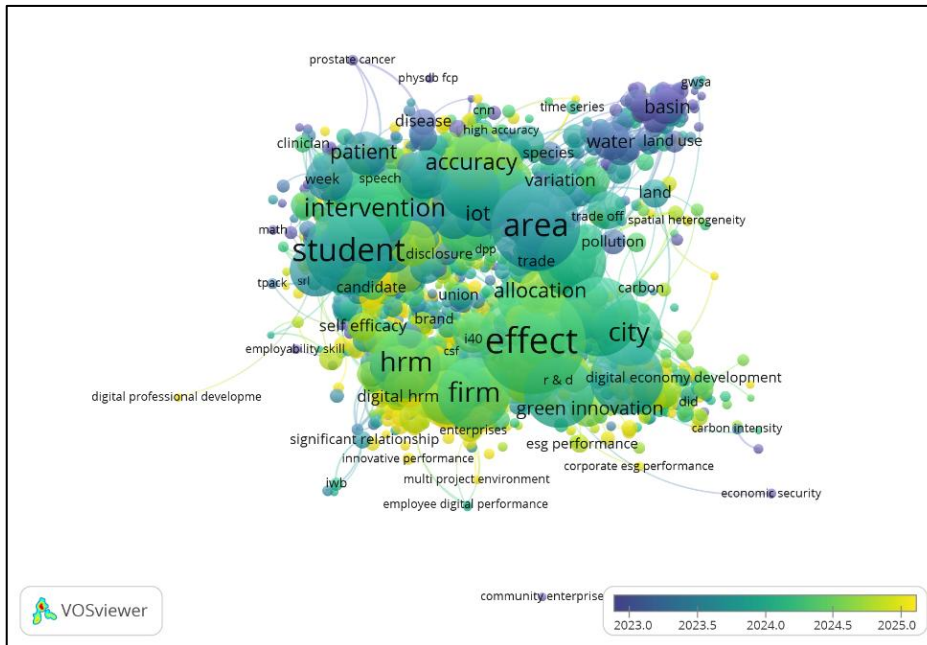


With HRM clusters linked to technology, organization, sustainability, education, and healthcare, the network shows that the literature is deeply interdisciplinary. Area, land, water, pollution, variation, and basin represent environmental and spatial study, whereas accuracy, IoT, high precision, and CNN represent technological and computational aspects. The high placement of “hrm,” “firm,” and “digital hrm” in the core network shows that HR-related studies are integrated into organizational and digital transformation conversations. As several groups appear to represent healthcare, environmental science, and education, the map suggests the dataset may have transdisciplinary or broad records. In the article *Artificial Intelligence Applications in Human Resource Practices: A Bibliometric Review*, keyword purification and enhancement, especially the elimination of irrelevant terms and standardization of synonyms like HRM, human resource management, and digital HRM would improve the thematic analysis and produce a more focused AI-HRM knowledge framework. Stringent inclusion criteria are needed to distinguish between wide technical applications and specific HRM

breakthroughs (Kavya et al., 2023; Priya, 2024).

Bibliometric research must focus on specific abilities and technical changes to ensure accurate mapping of AI-driven frameworks (Santana & Díaz-Fernández, 2022). This methodological adjustment will reveal co-occurrence linkages, preventing environmental science and clinical research from hiding human resource management technology interconnections (Ibrahim et al., 2023; Sakib, 2024).

### 4.3 Bibliometric Analysis Overlay Visualization



### VOSviewer overlay visualization

Figure 2 shows how keyword co-occurrence in the VOS viewer overlay visualizes theme growth and research advancement of the chosen literature. The dimensions of each node indicate keyword frequency, while the spacing and connecting lines indicate term association intensity. The graphic includes essential words like “effect,” “area,” “student,” “intervention,” “accuracy,” “HRM,” “firm,” “city,” “water,” “basin,” “patient,” and “IoT.” The importance of “effect” suggests that many studies have examined the effects of treatments, technology, organizational practices, or environmental factors. The frequent use of “HRM,” “firm,” “employee,” “digital performance,” “green innovation,” and “corporate ESG performance” shows a concentration on organizational and management themes. Another connected stream concerns “area,” “city,” “land,” “water,” “carbon,” “pollution,” and “spatial heterogeneity,” indicating a growing focus on geographical, environmental, and sustainability issues. The word “student” is prominently included and intimately linked to “intervention,” “patient,” “self-efficacy,” and “skill,” signifying a different approach to human development, intervention, education, and behavioral outcomes.

The overlay shades show research interest from 2023.0 in blue/purple to 2025.0 in yellow. Basin, water, patient, accuracy, region, and city are usually shown in blue and green in previous studies. New terms like “digital economy development,” “corporate ESG performance,” “economic security,” “green innovation,” “digital HRM,” “employee digital performance,” “innovative performance,” “self-efficacy,” and “trade-off” are emphasized in yellow or yellow green. Traditional empirical and industry-focused research are giving way to digitalization, sustainability, organizational change, workforce capabilities, ESG, and innovation. The current rise of digital HRM, the digital economy, green innovation, and ESG-related concepts suggest new research areas. These topics also reflect a growing academic emphasis on technology innovation and corporate accountability to address complex global concerns (Jamali et al., 2023). Modern companies are incorporating digital transformation into sustainable management strategies to stay competitive in a global economy (Asmini & Yusuf, 2025).

The study found that technology developments are merging with organizational, environmental, and human

challenges in a transdisciplinary, digital realm. Digital HRM, the digital economy, employee digital productivity, green innovation, and corporate ESG performance show that study is changing from technology as a standalone entity to its implications on organizational sustainability and performance. Continued focus on "effect," "intervention," and "accuracy" suggests professionals are still evaluating these advancements' efficacy and results. The transition to digital and sustainability jargon bodes well for future research. Future research may include digital transformation, HRM, green innovation, ESG, employee capabilities, and organizational performance. This integration would improve future research by disclosing digitalization's benefits, methods, and organizational and sustainability settings. Professionals must mix technology integration with strategic oversight to handle human capital advancement concerns as organizations embrace digital maturity frameworks to compete (Shahiduzzaman, 2025). Companies must adjust their personnel management practices to sophisticated analytics like artificial intelligence and cloud computing (Alan, 2023).

#### 4.4 Bibliometric Analysis Density Visualization

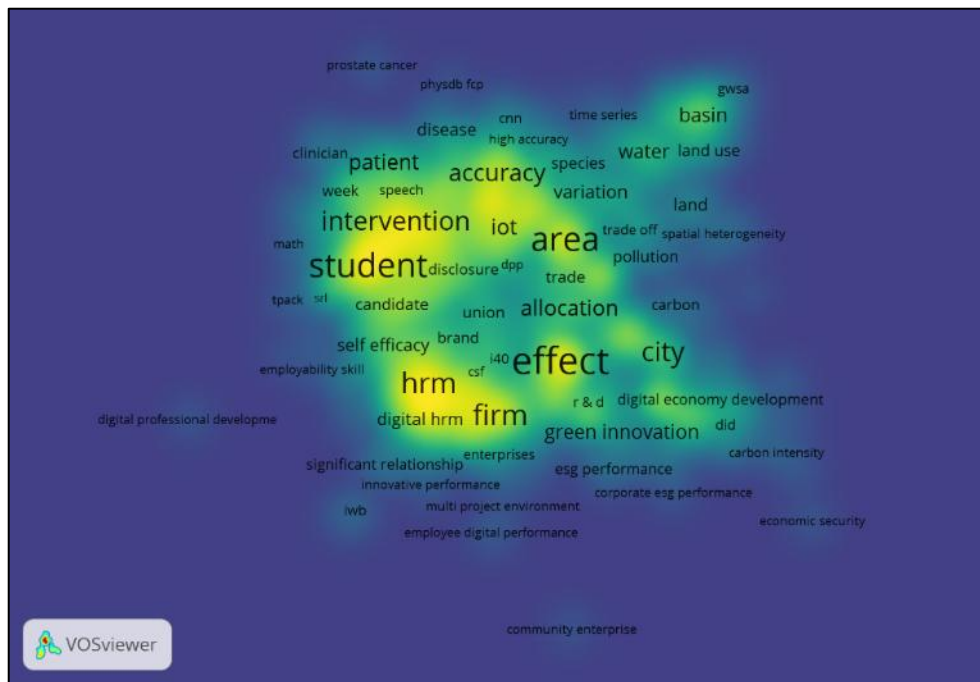


Figure 3 shows, The VOSviewer density visualisation shows scholarly interest on keywords. The yellow and green parts indicate phrases with higher frequency and research density, whereas the blue regions indicate less concentrated or marginal study topics. The most important high-density terms are "effect," "student," "area," "intervention," "accuracy," "HRM," "firm," "city," and "allocation." These include "effect" as a major theme, meaning that most of the literature analyses results, impacts, or interrelationships. The emphasis on "student," "intervention," and "self-efficacy" suggests scholarly interest in education, behaviour, and intervention. Organisational and digital management research is growing due to the focus on "HRM," "firm," "green innovation," "digital HRM," and "employee digital performance". The environmental cluster, which includes terms like "area," "city," "water," "land use," "pollution," "carbon," and "carbon intensity," shows scholarly interest in spatial, environmental, and sustainability issues.

The picture also shows lower-density and emerging fringe ideas distant from the main topics. Areas with lower density have terms like "digital professional development," "economic security," "community enterprise," "employee digital performance," "corporate ESG performance," and "digital economy development". This suggests that while these topics appear in scholarly writings, they are not yet as well researched as the main issues. Digital HRM, the digital economy, green innovation, ESG performance, and carbon intensity indicate a growing convergence of digital transformation with sustainability. The density pattern shows that the research domain is expanding to include digitalization, sustainable organizational practises, employee competences, ESG, and green innovation.

These clusters suggest that employee performance is interdisciplinary, providing academic choices for studying digital transformation and workplace well-being (Maryadi et al., 2025). Job happiness, mental health, and work

engagement influence technology adoption and organizational performance (Ashfan et al., 2026). These study emphasis adjustments reflect the rising demand for human-centered digital methodologies and digital capabilities for modern knowledge management (Falát et al., 2023). Digital, organizational, and sustainability problems are replacing traditional research subjects in literature; density visualization represents this. The relatively new themes of digital HRM, digital economic advancement, green innovation, corporate ESG performance, and employee digital performance suggest theoretical advancement, while terms like “effect,” “student,” “intervention,” and “accuracy” suggest prior research mostly assessed outcomes and interventions. Instead of descriptive studies, future research should establish comprehensive frameworks on how digital transformation impacts employee capabilities, organizational performance, creativity, and sustainability. Economic security and communal business may be addressed by multidisciplinary research. Technology, human capital, innovation, ESG, and sustainable organizational growth may be integrated in the density map's domain with strong themes and rising digital and sustainability research frontiers. Human-centric research must examine how technology influences job polarization and atypical employment to solve these issues and safeguard the workers (Shouraki et al., 2024). Sustainability in HRM is needed to boost tech uptake and employee satisfaction (Amalia, 2024).

## DISCUSSION AND RECOMMENDATION

The bibliometric results demonstrate that HRM AI applications are widespread, diversified, and increasingly related to digital transformation. Scopus discovered 5,658 Social Sciences, Business, Management, and Accounting, and Computer Science journal articles. Due to its growing technological, organizational, behavioral, and sustainability characteristics, AI-HRM research is difficult to understand from a management standpoint. The VOS viewer network's high relationships between HRM, companies, digital HRM, employee digital performance, self-efficacy, entrepreneurship, and organizational performance reveal that AI-driven HR practices are increasingly studied for employee and organizational performance. These technologies improve organizational sustainability by enhancing resource allocation and data-driven decision-making (Ramadian et al., 2025). Recent bibliometric data supports big data for HRM advancements and neural networks' function in procedural justice (Orabi et al., 2024a, 2024b).

Time and density assessments suggest research is moving from organizational and outcome-based problems to digitization, innovation, and sustainability. The literature includes impact, student, intervention, accuracy, area, and newer themes like digital HRM, digital economy advancement, green innovation, employee digital performance, ESG performance, and carbon intensity. The density map illustrates that digital HRM and other organisational difficulties are growing study fields, but the overlay shows their popularity. This transition means AI-HRM research is shifting from technological efficacy to how digital technologies effect employee skills, organizational performance, innovation, and sustainable business practices. As the Sustainable Development Goals compel organizations to apply human-centric AI to address complicated challenges like environmental degradation and social injustice, these topics grow (Jia & Hou, 2024). To guarantee HR-centric AI systems promote fairness and procedural justice across varied organizations, ethical governance and algorithmic monitoring should be studied (Khan et al., 2025; Mathushan, 2023).

Human-centricity and resilience are essential to Industry 5.0; thus, academics should investigate AI-powered tools to develop sustainable workforce competencies (Bouhsaien & Azmani, 2024). Requests should priorities resilient, sector-specific structures that decrease algorithmic bias and improve decision-making clarity (Rusdi et al., 2024). Established Western HR models sometimes need significant contextual change to succeed in diverse global markets, hence expanding this research topic to emerging nations is crucial (Kshetri, 2021). Following these findings, AI-HRM researchers should create more focused and theoretically coherent frameworks. Networking includes healthcare, education, environmental science, and geographical studies, among other interdisciplinary themes. By distinguishing HRM, human resource management, AI-HRM, digital HRM, and related technology concepts, additional bibliometric analyses should improve keyword purification, synonym normalization, and inclusion/exclusion criteria. Studies of AI-HRM should use unified theoretical frameworks to explain how AI adoption affects employee performance, self-efficacy, organizational innovation, decision-making, and sustainable performance. Employee digital performance, economic security, community enterprise, and corporate ESG performance are immature yet may offer unique empirical findings.

According to the findings, professionals and enterprises should move beyond technological adoption to a strategic and human-centric digital HRM framework when integrating AI. To improve employees' ability to use new HR technologies, companies should invest in digital skills, professional development, and AI training. Additionally, firms should evaluate AI-HRM initiatives based on employee digital performance, innovation, organizational sustainability, and ESG performance, not only operational efficiency (Abdullah, M. E., Saro, N. (2026). If governance and employee competences are adequate, AI-driven HR practices may improve organizational sustainability. Digitization, green innovation, and ESG are increasingly linked. Thus, AI-HRM plans must balance technical efficiency, workforce progress, organizational inventiveness, ethical oversight, and long-term sustainability.

## CONCLUSION

In summary, the bibliometric assessment reveals that the study of Artificial Intelligence applications in Human Resource Management (AI-HRM) has evolved into a vast and interdisciplinary domain, significantly influenced by social sciences, business and management, and computer science. The VOS viewer analyses demonstrate recognized research focuses on HRM, organizational performance, employee results, interventions, and efficacy, whereas the overlay and density visualizations highlight a growing interest in digital HRM, the evolution of the digital economy, employee digital performance, green innovation, ESG performance, and sustainability. These results indicate that AI-HRM research is gradually transitioning from a technology-focused viewpoint to a more holistic framework that encompasses organizational, human, digital, and sustainability results. The existence of diverse and unconnected themes in the dataset underscores the necessity for more accurate keyword selection and thematic enhancement in subsequent research. The results establish a basis for subsequent studies to create theoretically informed and empirically driven frameworks that investigate how AI-enhanced HR practices might improve employee competencies, organizational effectiveness, innovation, and sustainable growth.

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