International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Charting the nexus of AI And HRM: Insights from a Bibliometric Assessment

Meenu[1], Jamal A. Farooquie[2]

[1]Research Scholar, Department of Business Administration, Aligarh Muslim University
[2]Professor, Department of Business Administration, Aligarh Muslim University

Abstract
It is an undeniable fact that artificial intelligence is widely used in human resource management. The primary aim of this research is to offer significant perspectives on the global environment and structure of publications about artificial intelligence (AI) in human resource management (HRM). A wealth of information was found by the researchers when they searched the reputable scientific database Scopus. Initially, the search parameters provide 1926 documents covering the years 2014–2024. 477 documents have been gathered for review, with the subject matter limited to accounting, management, and business. In addition to a bibliometric analysis of articles, journals, indexes, authors' affiliations, citations, keyword co-occurrences, and co-authorship analysis, our thorough synthesis of search results yielded strong results. These included the volume of publications, growth rate, and distribution of research across journals and institutions. All things considered, bibliometric analysis improves our comprehension of academic research, promotes teamwork, and directs future lines of inquiry. The VOS viewer program is used to analyze these documents. Our analysis supports earlier studies that recognize AI's potential to transform HR administration and the nature of work in the future. Our study adds crucial insights and suggestions for further research to the expanding corpus of knowledge on AI and HR management.

Keywords: Human Resource Management, Personnel Management, Artificial Intelligence, Machine Intelligence

1. Introduction

For all industries and sectors, productivity has always been measured by effectiveness and efficiency. In order to do this, businesses are always looking for new and creative ways to streamline their operations (Lawande, 2024). AI appeared on everyone's radar in the blink of an eye (Andrieux et al., 2024), and businesses have begun to recognize the efficiency-based benefits (Tambe et al., 2019) that come from using AI systems for a range of applications and higher-order decision-making tasks (Evans and Kitchin, 2018; Merendino et al., 2018).

Artificial intelligence seeks to equip machines with intelligence, which is the ability to behave intelligently and anticipatorily within its environment (Abdeldayem & Aldulaimi, 2020). Businesses are rushing to determine the most effective way to implement it in human resource management (Andrieux et al., 2024). The fast growth and widespread embracing of Artificial Intelligence and other cutting-edge technology is causing a fundamental transformation in the interaction between organizations, employees, and customers. Furthermore, HRM duties and activities are becoming more and more automated in their administrative elements (Lariviere et al., 2017; Marler & Parry, 2016; Vrontis et al., 2022). AI-based technologies such

as chatbots, virtual assistants, robots, and automated systems are growing more popular, and businesses are seeking technological skills that are quick, accurate, convenient, and flexible in order to meet their financial objectives (de Visser et al., 2018).

According to Basu et al. (2023) systems and AI based technologies are quickly transforming and advancing into various functions pertaining to an organization. AI is being used in HRM across the whole employee life cycle, including human resource forecasting, designing jobs, talent acquisition processes, incentive programs and performance management, training and skill development, and customized workplace experience (Allal-Chérif et al., 2021; Votto et al., 2021; Jaiswal et al., 2022; Kaushal et al., 2023; Prikshat et al., 2023b; Deepa et al., 2024).

Businesses may anticipate increased automation, personalization, and data-driven decision-making in HR management as AI technology develops and grows over time. AI will keep helping to enhance HR procedures including posting jobs, screening applicants, and managing employee performance. AI will also assist HR professionals in making more informed decisions by offering real-time data and insights (Tairov et al., 2024). AI is anticipated to lessen behavioral and perceptual biases in human interactions, according to Richard Coombs, head of Deloitte's HR transformation practice. As a result, this keeps the company competitive in the talent market for recruiting and hiring candidates (Khan et al., 2024).

This paper was created as a guide for stakeholders that intend to use AI-powered software in their organizations to enhance personnel management and professional development practices. This could be used as a guide to learn about the present uses, their benefits and drawbacks, and any obstacles or difficulties they may face. The ultimate goal of this research is to support and aid in the decision-making process that businesses go through when determining whether to implement AI in corporate training. Therefore, this study's main goal is to examine how AI might be used for human resource management and professional development.

The specific goals to be addressed are to: analyze how artificial intelligence (AI) is being used in professional development and talent management in businesses; determine the advantages and disadvantages of integrating AI-based solutions in the corporate education sector; identify the main obstacles and challenges that HR departments face when implementing these technologies to improve learning and development; and investigate and analyze the latest trends, innovations, and potential developments in the use of AI technologies in corporate education in order to offer insights into the future course of AI integration in this field. Consequently, we hope to address the following research concerns with this study:

RQ.1 What is the global landscape and framework of publication in Human Resource Management and Artificial Intelligence?

RQ.2 How has the idea of artificial intelligence changed over time, and how has HRM used it?

This study is organized into multiple sections, each of which concentrate on examining a different facet of the research. Introduction and overview of artificial intelligence in HRM covered in the first section. followed by the next section of method and data analysis, while the final section discusses the conclusion and future recommendations.

2. Overview

2.1. Concept of AI

Two authors stand out in the development of the notion of artificial intelligence, notwithstanding its unclear beginnings. A.M. Turing, the founder of contemporary computing, is one example while on the

other hand, there is J. McCarthy, the father of AI. Turing (1937) introduced the concept of algorithms and laid the foundation of computer science. Later, Turing (1950) proposed the Turing test This determines if a machine can replicate the intelligence of the human using it. Alan Turing postulated in 1950 that if a human interacting with a machine was unable to distinguish between a human and a machine, then the human would be deemed intelligent (Turing, 1950). But during a meeting in Dartmouth, J. McCarthy came up with the term "artificial intelligence" (Paesano 2021). The first systems used algorithmic logic to solve "common sense" problems (McCarthy, 1956). Unsurprisingly, artificial intelligence (AI) frequently refers to a group of technologies that aim to mimic human cognitive processes (Flasiński, 2016).

AI was predicted to advance quickly into computers and robots with cognitive capacities comparable to those of humans in the 1950s and 1960s, but this did not occur until it recently attracted attention (Pillai and Sivathanu 2020; Palos-Sánchez et al., 2022). Due to drastic upsurge and improved and accelerated communication technologies, and the introduction of increasingly complex and more sophisticated algorithms, investment and interest in AI only began to increase again in the first decades of the twenty-first century (EY, 2018; Rauf et al., 2021).

The term "artificial intelligence" is used colloquially to refer to the simulation of "cognitive" processes that are linked with human minds, such as "learning" and "problem solving" (Abdeldayem & Aldulaimi, 2020). (Abdeldayem & Aldulaimi, 2020). AI refers to the use of technology to execute the jobs which demands some level on Human intelligence. Three fundamental elements distinguish artificial intelligence (AI) from standard software: a) rapid computation b) vast quantities of high-quality data c) sophisticated algorithms. AI encompasses a variety of tasks, such as machine vision, speech recognition, expert systems, ATS (Application Tracking System), and more.

Various definitions of AI have been proposed by different scholars (Welsh 2019), and depending on the time period and level of development attained, different studies have looked at different aspects of technology. Table 1 shows a sample of the most pertinent definitions.

Authors	Definition
Kaplan and Haenlein (2020)	"AI refers to a set of techniques and algorithms that can automatically integrate, process and learn from data and apply those learnings to achieve specific objectives and tasks."
Van Esch et al., (2019)	"Any intelligent agent (e.g.., device) that distinguishes between different environments and can take a course of action(s) to increase the success of achieving predetermined objectives."
Malik et al., 2020	"AI in business refers to the development of intelligent machines or computerised systems that can learn, react and perform activities like human for a range of tasks."
Schmidt et al., 2020	"Artificial Intelligence: The endeavour to mimic cognitive and human capabilities on computers."
Mikalef et al., 2021	"AI is the ability of a system to identify, interpret, make inferences and learn from data to achieve predetermined organizational and societal goals."

Table 1 Definition from different authors

2.2. AI in Human Resource management

According to Black & Van Esch (2020), within business organizations, human resources are recognized

as strategic key assets and the primary driver of sustained competitive advantage (Patel et al., 2019). HRM is a process that requires the simultaneous execution of numerous tasks, ranging from recruitment to payroll management (Alan, H., 2023). Effective HR procedures minimize issues and optimize benefits (Alan, H., 2023). The modernization of human resource management has experienced a profound evolution (Votto et al., 2021), and there is compelling evidence that the future practices of HRM will be marked by increased virtualization and high levels of digitization, supported by AI technologies to achieve long-term competitive advantage (Mefi and Asoba, 2021; Prikshat et al.,2023).

Businesses are beginning to seize these opportunities to reduce uncertainty, reduce supervision time, and improve decision-making processes' effectiveness (Olan et al., 2024). HRM has been able to increase market competition, productivity, and cost effectiveness by skillfully navigating technological advancements like computers and the internet (Hmoud and Várallyai, 2020; Votto et al., 2021).

The areas where AI has the greatest impact are in increasing HRM effectiveness, automating administrative aspects of HRM (Lariviere et al., 2017), and improving employee satisfaction through AI-powered social exchanges of knowledge (Hmoud and Várallyai, 2020). Currently, human resource management tasks such as strategic planning (Khan et al., 2024), personnel search and acquisition (Vrontis et al., 2022), human resource development, and turnover prediction are all aided by artificial intelligence. Employee selection (Vrontis et al., 2022), communication with prospective employees (Dahm & Dregger, 2019; Iyer et al., 2020), training measure development and implementation (Knobloch & Hustedt, 2019), employee evaluations (Vrontis et al., 2022), retention measures (Atef et al., 2022), and manager potential evaluation (Dahm & Dregger, 2019, Nawaz, 2019b). AI technologies can reduce labor costs (Malik et al., 2022), boost productivity (Jonker-Hoffren, 2020), and facilitate better computer and human interaction at work (Pereira et al., 2023). The use of AI technology in HRM can improve organizational decision-making processes (Olan et al., 2024), including the standard tasks carried out by HRM practitioners, such scheduling vacation requests, team training, and hiring, claim Matsa and Gullamajji (2019).

Similarly, chatbots have standardized employee involvement, communication, and experience while giving workers access to information continuously (Pillai et al., 2023). A self-service coaching, counselling, and employee health and well-being are important HR interfaces that are gaining popularity in AI-based HR technologies due to shifting technology expectations (Kaushal et al., 2023). AI-based video hiring has been seen as impartial, equitable, and consistent in assessment, and it has a higher chance of yielding results that surpass human decision-making biases (Allal-Che´rif et al., 2021; Deepa et al., 2024).

According to Rauf et al. (2021), artificial intelligence (AI) is the ability of a computer to mimic human cognitive functions like learning, reasoning, creativity, and problem-solving as well as sensory functions like speech recognition and visual perception. AI-powered practices cause a paradigm change in human-machine relationships by drastically altering organizational structures, communication, affordances, and ecosystems, as noted by Akerblad et al. (2021). AI thus alters human interaction and work practices (Budhwar & Malik, 2019). According to Wilson et al. (2017), in order to facilitate successful collaboration with AI, new managerial abilities are required, including new roles like sustainers, explainers, and trainers (Budhwar & Malik, 2020).

Since AI has the capacity to significantly affect many facets of society at large, such as human resource management (HRM) and various other businesses, both "now" and in the near "subsequent years," it is considered a part of the next technological frontier (Bughin et al., 2018; Manyika et al., 2017; Olan et al., 2024).

3. Data and Method

The bibliometric analysis technique allows the academic researcher to thoroughly examine and keep track of a repository of data information (as shown in figure 1), allowing for an extensive comprehension of the exchange and promotion of knowledge to the esteemed individuals (Zhang et al., 2021; Kaur et al., 2021). Because it exclusively contains content from respected and well-known academic journals like Elsevier, Emerald, Inderscience, Springer, and the Taylor & Francis Group, the Scopus online database was especially selected as the main source of information for this study (Kafi et al., 2023). It is a significant source of abstracts and citations in the fields of management and business, including the intricate fields of human resource management and artificial intelligence (Haba et al., 2022).

3.1. Literature Search

A first exploratory search and a more systematic search were the two sections of our literature search. We carried out a preliminary investigation to identify pertinent literature and keywords for our study topic since we are interested in analyzing the application and difficulties faced by organizations when adopting artificial intelligence in human resource management. In order to find pertinent articles, we had to determine the keywords (Table 2) that offer the best keyword formula. In order to find trends in phrase usage, we first performed a scoping search of pertinent articles.

Choosing a beginning set of papers to apply the snowballing process should be the first step in this technique, according to Wholin [2014]. We may have an initial set of articles for the systematic literature analysis at the end of any search for articles to include in the start set (as shown in Table 2). These keywords are referred to as "entry terms" by Bates (1976). They will serve as the cornerstone of our more methodical literature review and search. Using standard boolean operators, we developed a single search algorithm (Pisani et al., 2017).

These logical criteria were created to incorporate all of the research and publications that were thought to be most pertinent to this study. The following were ultimately determined after working on the state of the art, analysing the keywords used by the various reference authors, and then evaluating and testing their dimensions in databases with over 1500 entries for each keyword in Scopus. The study's primary objective is to find related articles of "artificial intelligence," also known as "machine intelligence," in the fields of "human resource management" and "personnel management" In order to obtain as many results as possible that were pertinent to the study, we made an effort to cover a wide range with these keywords. To do this, we used the Boolean operators "AND" and "OR," which resulted in the search string being (TITLE-ABS-KEY ("Artificial Intelligence" OR "Machine Intelligence") AND TITLE-ABS-KEY ("Human Resource Management" OR "Personnel Management")). AND PUBYEAR <2025 (LIMIT-TO (SUBJAREA, "BUSI") AND (LIMIT-TO (DOCTYPE< "ar")) AND (LIMIT-TO (LANGUAGE, "English")".

Table 2 Snowball Process for keywords

Keywords	Entry terms
Human Resource Management	Manpower Management, Personnel Management, Workforce Management, Organization Management, Talent Management, People Management
Artificial Intelligence	

	Machine Intelligence, Cognitive Computing, Automated Intelligence, Algorithm Intelligence, Deep learning System, Neural Network, Smart Automation, Computational Learning, AI- powered technology, Advanced Robotics

Table 3 Database and search string

Search Location	Search String
Scopus	**(Title ("Artificial Intelligence" OR "Machine Intelligence")) AND (Title ("Human Resource Management" OR "Personnel Management))**

3.2. Defining Keywords

When doing a bibliometric study, choosing relevant keywords is essential. The researchers used the search terms artificial intelligence, AI, human resource management and HRM in accordance with the goals of the study.

Figure 1. Flow diagram of the search strategy Source: Ahmi (2022) and Morshidi et al. (2022), Zakaria Et Al. (2021),

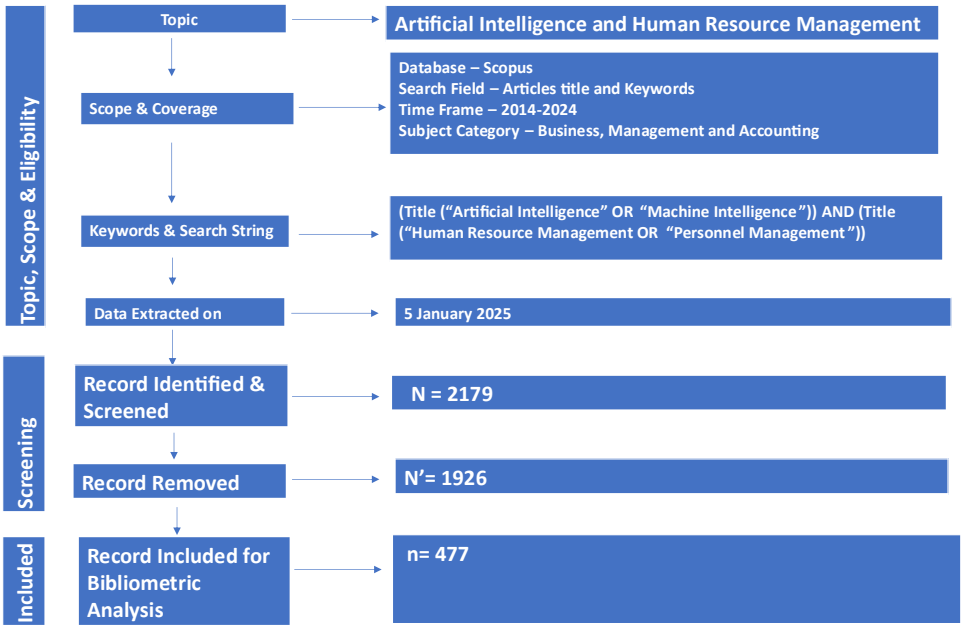

Figure 1 Flow diagram of the search strategy

Due to the significant progress made in AI since 2014, the search was confined to results within the timeframe of 2014 to 2024. After implementing the planned search strategy on Scopus (Figure 1) there were 2179 documents identified and after exclusion and inclusion criteria, leaving a total of 477 articles to be screened. Article metadata, titles, abstracts and keywords were imported into a CSV file. In total 477 papers were assessed for eligibility from which 1926 were removed in the first screening by reading the abstract, the title and the key words, as they were not addressing the research topic Afterwards, the resulting selection composed of 477 documents was downloaded in the form of full-text, all papers were accessible and retrieved.

Our comprehensive synthesis of annual growth of publications, distribution of document type, language and geographical distribution of publications, Citation analysis of journals, authors and affiliations, co-citation analysis, keyword co-occurrences, and co-authorship analysis which is divided into three sections:

descriptive analysis, citation analysis and relational analysis—have produced strong results. These documents are analysed using the VOS viewer tool.

3.3. Document Data Analysis

This part explores an academic profile of human resource management and artificial intelligence, providing details on the publications from 2014 to 2024. The previously mentioned analytical techniques have primarily been employed to address the study goals presented in the previous section of this chapter. Descriptive analysis, citation analysis and relational analysis are distinct categories into which the analyses presented in this academic study have been methodically divided. The various phases and meticulous analyses that have been meticulously conducted along the trajectory of this complex investigation are depicted in Figure 2.

3.3.1. Descriptive Analysis

A thorough compilation of information about the current state of scholarly publications analysis is included in the descriptive analysis. This includes the following: the annual publication trend, the distribution of document types, the distribution of geographical and linguistic information, the most relevant journals, the most productive authors and article citations, the top contributing institutions, and the most frequently used keywords. We used VOS Viewer, an excellent application that was painstakingly designed to carefully do the bibliometric analysis, to accomplish the research goal.

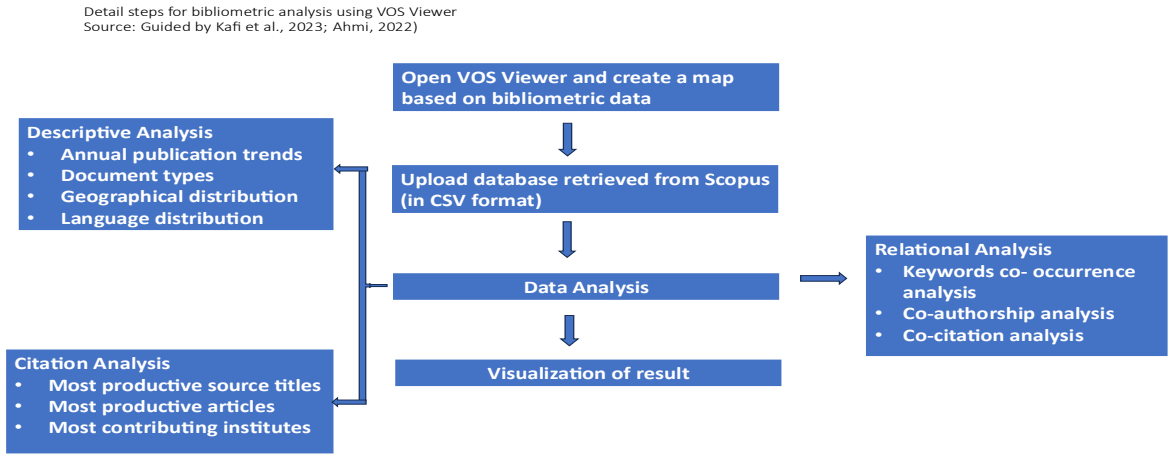

Figure 2 Detail steps for bibliometric analysis using VOS viewer

3.3.1.1. Annual growth of publication

One significant metric that shows the development tendencies of a research project is the number of publications. Table 4 and Figure 3 show the yearly publishing patterns from 2014 to 2024. Overall, there is a noticeable upward tendency in the data, which has increased considerably over time. The extremely sluggish development between 2014 and 2019 suggests a time of stagnation as well as a foundation phase with modest growth in the publication. There were years with negative or smaller growth such as 2016 (-40%) and 2017 (33.33%) but this trend corrected itself by upcoming years. The years 2020- 2024 marks a transformative phase with rapid growth, suggesting a significant momentum in research activities. From year 2022 to 2023, publications increased significantly from 54 to 139 with net increase of 85 publications and growth rate of 157.41%.

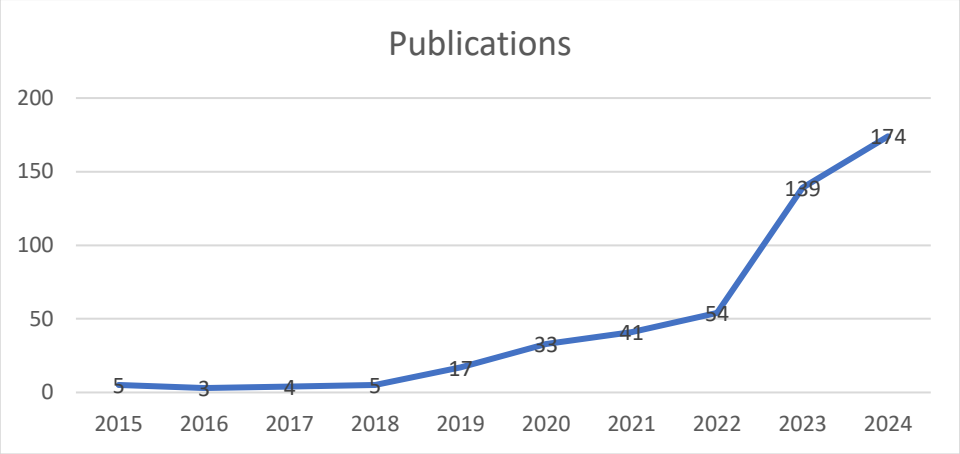

Figure3 Annual growth of publications from 2014-2024

Year	Publications	Growth Rate (In %)
2014	2	-
2015	5	150
2016	3	-40
2017	4	33.33
2018	5	25
2019	17	240
2020	33	94.12
2021	41	24.24
2022	54	31.71
2023	139	157.41
2024	174	25.18

Table 4 publication and growth rate (in %)

3.3.1.2. Distribution of document type

Articles, book chapters, conference papers, books, reviews, erratums, editorials, and conference reviews (shown in figure 4) were among the materials that were extracted for analysis, as previously mentioned in the methodology section. The types of documents of publication are represented numerically in Table 5 highlighting the distribution and frequency of various form of scholarly output. Article dominate the publication landscape with the count of 244 and 51.15% indicating articles are most common form of scholarly communication. Review, editorial and conference review represent smaller but notable contribution involving critical commentary and summarization of ongoing developments and reflects the ongoing efforts to ensure rigor and integrity in the research. Relative high count of book chapters and conference paper highlights the importance of collaborative and conference based academic engagement. Articles and book chapters together make up 73.16% of total documents published.

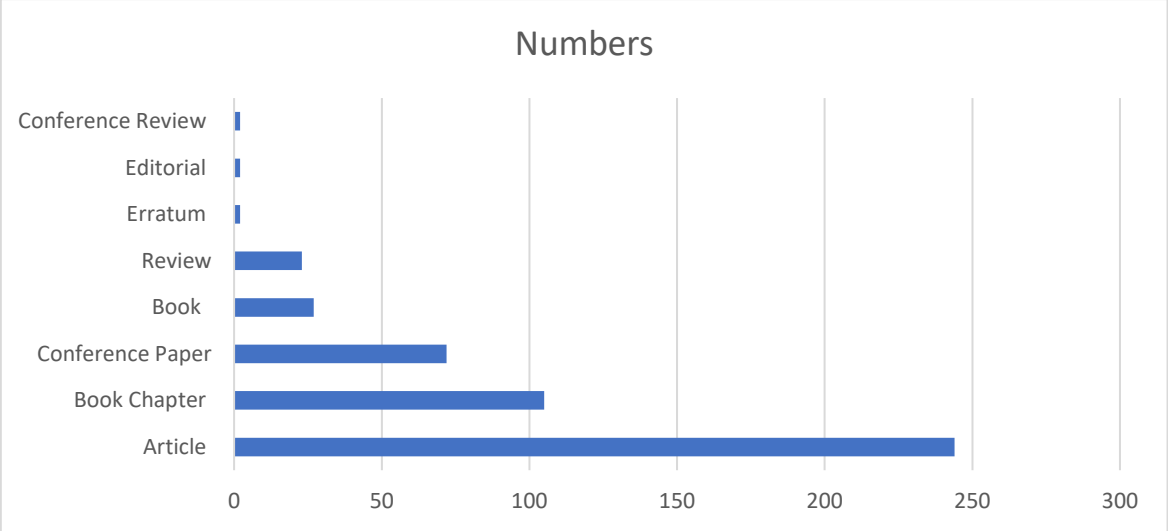

Figure 4 Distribution of Document Type

Document Type	Numbers	(in %)
Article	244	51.15
Book Chapter	105	22.01
Conference Paper	72	15.09
Book	27	5.66
Review	23	4.82
Erratum	2	0.42
Editorial	2	0.42
Conference Review	2	0.42

Table 5 Distribution of document type in percentage

3.3.1.3. Language distribution

The data provided in table 6 represent the distributions across different languages. According to Table 6, English Language as the primary medium for the research dissemination, reinforcing its role as the dominate language in academia. Efforts to include other languages are minimal, which could limit the accessibility of research to non-English speaking regions and communities.

Language	Publication
English	470
German	5
Portuguese	1
Serbian	1

Table 6 Language distribution

3.3.1.4. Geographical distribution

A detailed overview of the ten countries that have proven productive in terms of paper publication is shown in Table 7. India, United States, United Kingdom, China, Australia, France, Germany, Italy,

Malaysia, and Turkey are the countries that have produced the most scholarly work in the topic of AI-HRM. The dataset reflects a mix of established research hubs (e.g., United States, United Kingdom, Germany) and emerging contributors (e.g., India, Malaysia). India's leading position highlights its rapidly growing academic output, which may be attributed to increased focus on higher education and government-led initiatives to promote research. The global distribution underscores the interconnectedness of academic research and the importance of international collaboration for addressing global challenges.

Country	Publication
India	127
United States	76
United Kingdom	52
China	43
Australia	39
France	33
Germany	30
Italy	24
Malaysia	19
Turkey	17

Table 7 Geographical distribution

3.3.2. Citation Analysis

Citation analysis counts the number of times an author, article, or publication has been cited by other publications in order to estimate its significance or effect.

3.3.2.1. Most productive source title

Unquestionably, the empirical data shown in Table 8, which is located below, shows the most pertinent source names and their publications. To keep things simple, we provide the details of the top decadal journals, making sure that each has at least five published articles. The data reveals a balanced mix of specialized HRM journals and interdisciplinary sources, reflecting the diverse and evolving nature of HRM research. The focus on technology-oriented journals suggests a growing interest in exploring how HRM intersects with technological advancements and societal changes. The regional representation in journals like the Asia Pacific Journal of Human Resources underscores the global scope and cultural diversity in HRM studies.

Journal Name	Total Publication
Human Resource Management Review	11
Personnel Review	10
International Journal of Human Resource Management	10
Lecture Notes in Business Information Processing	9
Asia Pacific Journal of Human Resources	7
IEEE Transactions on Engineering Management	7
Technological Forecasting and Social Change	7

Organizational Dynamics	6
International Journal of Manpower	5
Technology in Society	5

Table 8 Most productive source titles

3.3.2.2. Most cited Articles

The articles with the most citations, both internationally and within the academic community, are displayed in Table 9. The article's standing in the academic community is determined by the leading scholarly publication. Broadly speaking, global citations are an indication of the annual recurrent citation rate, particularly when data retrieval has occurred (Morshidi et al., 2023). With an amazing citation total of 550, the leading academic article "Artificial intelligence in human resources management: Challenges and A path forward" by Tembe et al. (2019) explores the complex field of AI-HRM. One cannot not but be enthralled by the intellectual capacity displayed in academic debate while browsing the scholarly world. The authors are pleased to bring to your honourable notice the second most-cited article: "Artificial intelligence, robotics, advanced technologies and human resource management: a systematic review" by the learned Vrontis et al. (2022). This groundbreaking article explores the deep complexity of AI-HRM and illuminates the many issues that plague this admirable endeavour. It has an impressive 500 citations.

Article	Authors	Source	Year	Citation	Average Citation per year
Artificial intelligence in human resources management: Challenges and A path forward	Tambe, P., Cappelli, P., Yakubovich, V.	California Management Review, 61(4), pp. 15–42	2019	550	110
Artificial intelligence, robotics, advanced technologies and human resource management: a systematic review	Vrontis, D., Christofi, M., Pereira, V., ... Makrides, A., Trichina, E.	International Journal of Human Resource Management, 33(6), pp. 1237–1266	2022	500	250
Unlocking the value of artificial intelligence in human resource management through AI capability framework	Chowdhury, S., Dey, P., Joel-Edgar, S.,Abadie, A., Truong, L.	Human Resource Management Review, 33(1), 100899	2023	282	282
Artificial intelligence–challenges and opportunities for international HRM: a	Budhwar, P., Malik, A., De Silva, M.T.T., Thevisuthan, P.	International Journal of Human Resource Management, 33(6), pp. 1065–1097	2022	224	112

review and research agenda					
Human resource management in the age of generative artificial intelligence: Perspectives and research directions on ChatGPT	Budhwar, P., Chowdhury, S., Wood, G., ... Tung, R.L., Varma, A.	Human Resource Management Journal, 33(3), pp. 606–659	2023	214	214
A systematic literature review on the impact of artificial intelligence on workplace outcomes: A multi-process perspective -	Pereira, V., Hadjielias, E., Christofi, M., Vrontis, D.	Human Resource Management Review, 33(1), 100857	2023	186	186
Adoption of artificial intelligence (AI) for talent acquisition in IT/ITeS organizations	Pillai, R., Sivathanu, B.	Benchmarking, 27(9), pp. 2599–2629	2020	183	45.75
Impact of artificial intelligence on employees working in industry 4.0 led organizations	Malik, N., Tripathi, S.N., Kar, A.K., Gupta, S.	International Journal of Manpower, 43(2), pp. 334–354	2022	163	81.5
Generative artificial Intelligence as a new context for management theories: analysis of ChatGPT	Korzynski, P., Mazurek, G., Altmann, A., ... Wach, K., Ziemba, E.	Central European Management Journal, 31(1), pp. 3–13	2023	153	153
Influences of artificial intelligence (AI) awareness on career competency and job burnout	Kong, H., Yuan, Y., Baruch, Y., ... Jiang, X., Wang, K.	International Journal of Contemporary Hospitality Management, 33(2), pp. 717–734	2021	152	50.66

Table 9 Most cited articles

3.3.2.3. Top Contributing Institutes

This data highlights the prominence of certain institutions in research output while demonstrating the geographic and thematic diversity of academic contributions in Table 10. The top ten affiliations are included in the table to provide understanding. With a notable total of 12 publications each, Aston University and Aston Business School stand out as the most productive institutions in the field of AI-HRM reflecting their robust academic and funding infrastructure. Both universities exhibit a strong commitment to discussing and sharing knowledge on this topic. Institutions like Lovely Professional

University and University of Johannesburg show promise as emerging contributors to the academic landscape. Institutions with moderate outputs, such as NEOMA Business School and TBS Business School, could benefit from increased collaborations with leading research institutions to amplify their impact.

Institution	Publication
Aston University	12
Aston Business School	12
The University of Newcastle, Australia	11
Amity University	11
Lovely Professional University	10
Universiteit Twente	8
Symbiosis International (Deemed University)	8
NEOMA Business School	7
University of Johannesburg	6
TBS Business School	6

Table 10 Top contributing institutes

3.4. Relational Analysis

Bibliometric databases e.g., Scopus, Web of Science and visualization software e.g., VOS viewer could help map co-authorship networks, track the evolution of key topics, and identify influential authors or journals. Such an analysis would also highlight gaps in knowledge, providing a foundation for shaping future research agendas and policy-making efforts in academia and beyond**.**

3.4.1. Authors and co– authorship analysis

The most prolific authors with the most publications are listed in Table 11. With 12 publications, Budhwar P. and Malik A. are the most well-known author in the AI-HRM field and dominate in terms of productivity and impact. These famous authors have accumulated impressively well-written articles in the subject of artificial intelligence and human resource management, which are distinguished by their unshakable dedication to the growth of knowledge in the scope of AI-HRM.

Author	Publication	Citations	Link Strength
Budhwar, Pawan	12	838	21
Malik, Ashish	11	853	19
Stone, Dianna I.	5	105	7
Renkema, Maarten	5	38	0
Prikshat, Verma	5	172	10
Pereira, Vijay	4	932	4
Mishra, Sushanta kumar	4	32	4
Lukaszewski, Kimberly m.	4	105	6
Johnson, Richard d.	4	103	5
Dutta, Debolina	4	37	3
Chowdhury, Soumyadeb	4	538	5

da Costa, Renato lopes	3	16	9
Varma, Arup	3	234	8
Srikanth, N.R.	3	222	6
Pereira, Leandro	3	16	9
Patel, Parth	3	51	7
Nawaz, Nishad	3	47	0
Gonçalves, Rui	3	16	9
Dias, Alvaro	3	16	9
Chilamkurti, Naveen	3	12	2
Cameron, Roslyn	3	61	1
Balusamy, Balamurugan	3	12	2

Table 11 Authors and co– authorship analysis

Co-authorship is a cornerstone of collaborative research, promoting the sharing of expertise and resources to advance knowledge in a given field. The chosen 22 authors meet the publication threshold of 3 publications and collectively represent a diverse range of strengths in citations, collaborative networks, and total influence as shown in figure 5 and table 11.

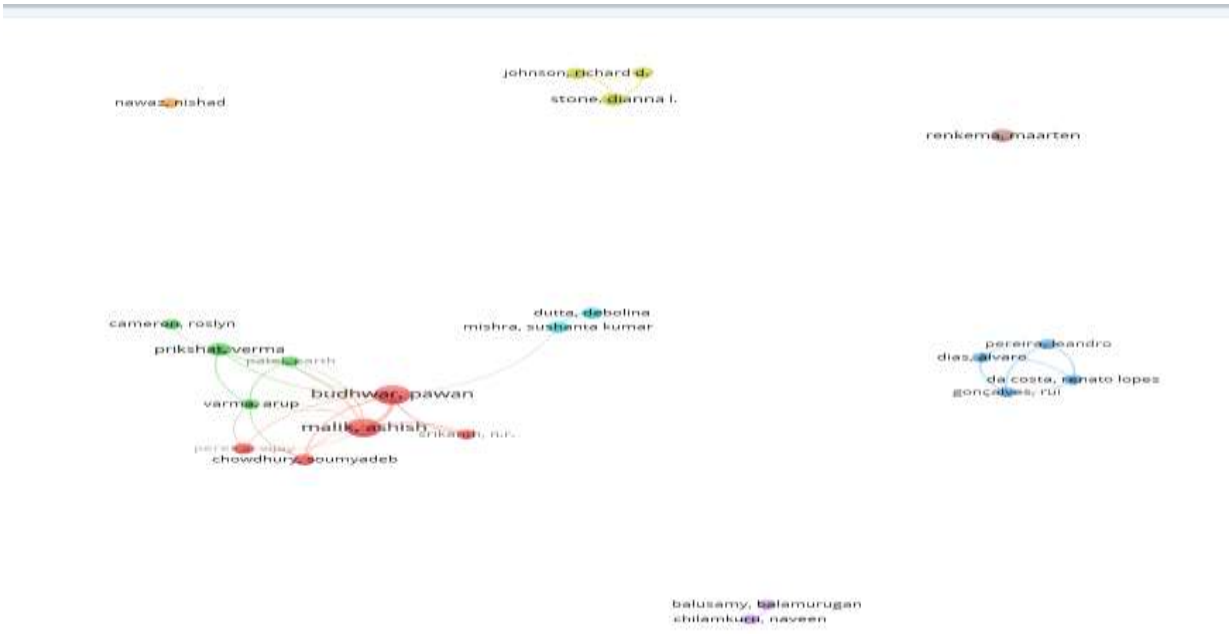

Figure 5 Authors and co– authorship analysis

3.4.2. Keywords and Co- Occurrence Analysis

The main ideas of a research paper, journal article, or study are represented by keywords. Nouns or phrases that capture the essence of a publication are called keywords. They make it easier for researchers and readers to find pertinent material in databases and rapidly identify the topic. The most relevant keywords are displayed in Table 12. The prevalence of artificial intelligence indicates how important and widely used AI technologies are becoming in human resource management. Topics like decision Making, resource Allocation, and industry 4.0 reflect the intersection of AI and HRM with broader management and

industrial applications. Topics such as learning systems, recruitment, and employee engagement highlight areas with potential for growth and practical application. AI, including its subfields like machine learning, continues to dominate research output, showcasing its role as a transformative technology across disciplines. HRM remains a key area with a strong citation impact, indicating its practical importance in workforce management and organizational development.

Keywords	Frequency	Total Strength link
Artificial Intelligence	241	586
Human Resource management	211	593
Human resources Management	55	231
Machine learning	38	144
Decision Making	35	167
Resource allocation	30	185
Information Management	27	134
HRM	25	73
AI	25	58
Natural Resource Management	22	145
Industry 4. 0	20	34
Artificial Intelligence (AI)	20	60
Learning Systems	17	69
Decision Support Systems	17	73
Technology	16	42
Talent Management	16	44
Recruitment	16	40
Employee Engagement	16	55
Human Resources	15	31
Machine-learning	14	84

Table 12 Keywords and Co- Occurrence Analysis

The scientific significance of an article is shown by how frequently it is referenced in other articles. One of the criteria used to evaluate the calibre of research that was published in journals related to science, technology, and social sciences was citation analysis. Based on bibliometric data, 2249 keywords were used in this study. Using VOS viewer, the co-occurrence of the research terms was examined. The keywords' co-occurrence threshold was established at 10 and 38 items, respectively, before they were visualized (Figure 6).

The circles' sizes indicate the frequency of keywords. More co-selection of a keyword in the publications is indicated by a wider circle. The two terms with the greatest power were "artificial intelligence" and "human resource management." The two keywords' distance from one another showed topic similarity and relative strength. Circles in the same color group indicated that these articles were about the same subject. Figure 6's co-keyword network made six separate clusters quite evident. Each stood for a subfield within the domain of the research topic. By examining the primary node circles of each of the six major clusters,

appropriate labels may be assigned to each of them. In particular, as can be seen in the red cluster in Figure 6, cluster 1, upper left, 13 items, phrases like big data, automation, artificial intelligence, etc.

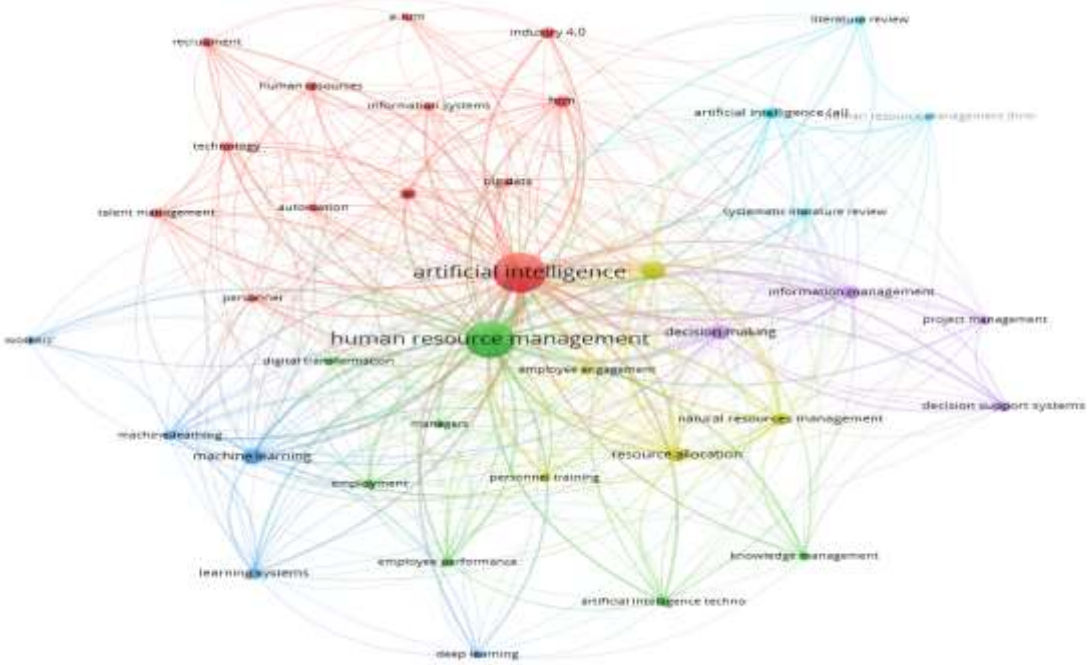

Figure 6 Keywords and Co- Occurrence Analysis

3.4.3. Co-occurrence Authors Keywords

Author keywords are specific terms or phrases selected by the authors of a research paper, article, or study to represent its core topics, themes, or focus areas. These keywords help readers, researchers, and databases understand the main subjects of the work and make it easier to locate the paper in searches. In this bibliometric study, there are 1204 author keywords involved and the co-occurrence threshold of author keywords is 10 and 16 keywords meet the threshold as shown in figure 7.

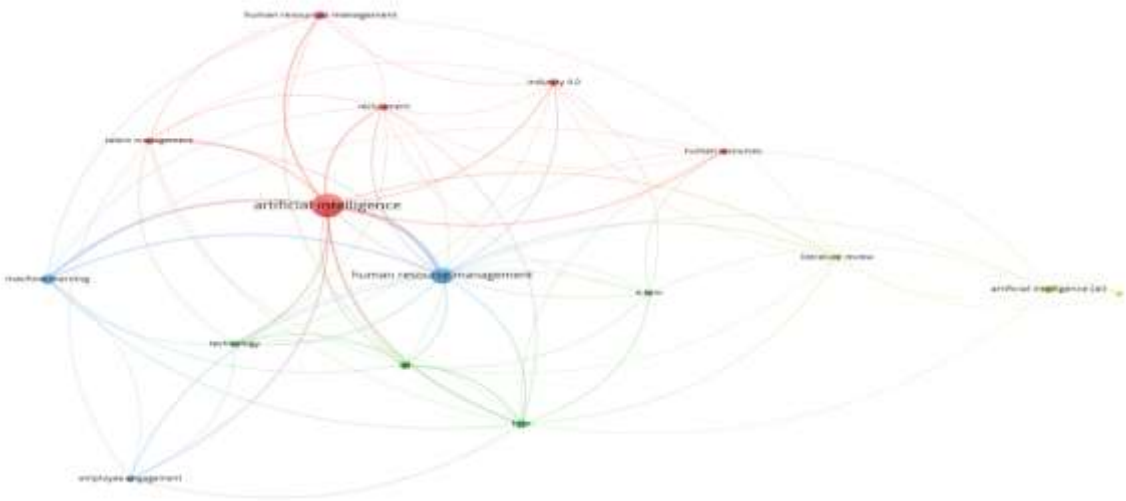

Figure7 Co-occurrence Authors Keywords

3.4.4. Co-occurrence Indexed Keywords

Indexed keywords are terms or phrases assigned to a research article by indexing databases e.g., Scopus, Web of Science to categorize and organize the content of the paper for easier retrieval and discoverability. Unlike author keywords, which are chosen by the authors, indexed keywords are often selected by the database's algorithms or curators based on the content of the article, such as its title, abstract, and full text. In this bibliometric study, there are 1408 author keywords involved and the co-occurrence threshold of author keywords is selected to be 10 and 20 keywords meet the threshold as shown in figure 8.

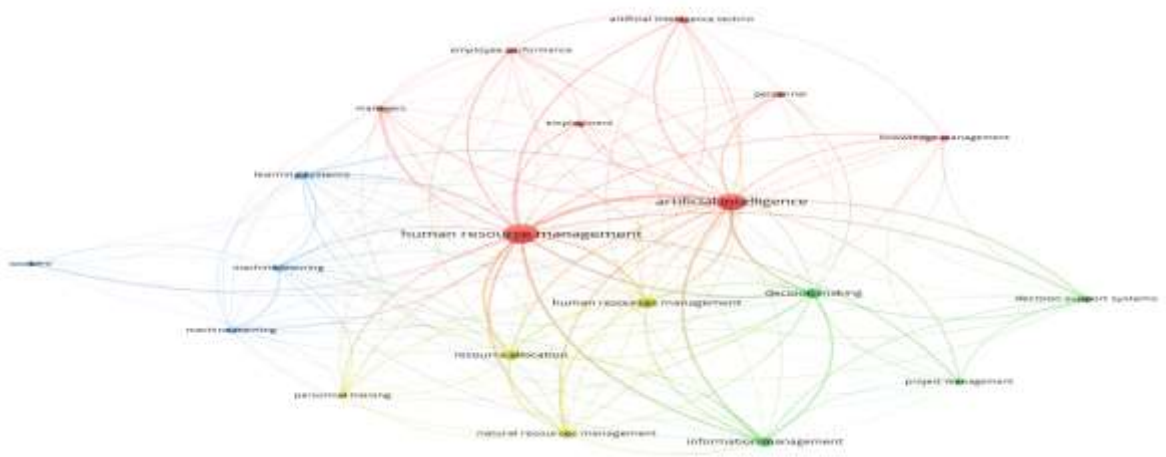

Figure 8 Co-occurrence Indexed Keywords

3.5. Co- Citation Analysis

Co-citation analysis is widely used in bibliometric studies, enabling researchers and institutions to better understand the landscape of academic research and identify influential contributions. Co-citation analysis is a bibliometric method used to study the relationships between publications, authors, or journals by analyzing how often they are cited together in the same works. It helps identify patterns, trends, and structures in scholarly literature, offering insights into the intellectual organization of a research field.

3.5.1. Cited reference

Co-citation with cited references refers to the analysis of how often two or more previously published works are cited together in the reference lists of other, newer publications. This method provides insights into the perceived relationship or similarity between these cited works based on their co-occurrence in subsequent research. In this bibliometric study, there are 24353 cited references are involved and the co-citation threshold is selected to be 10 and 40 cited references meet the threshold as shown in figure 9.

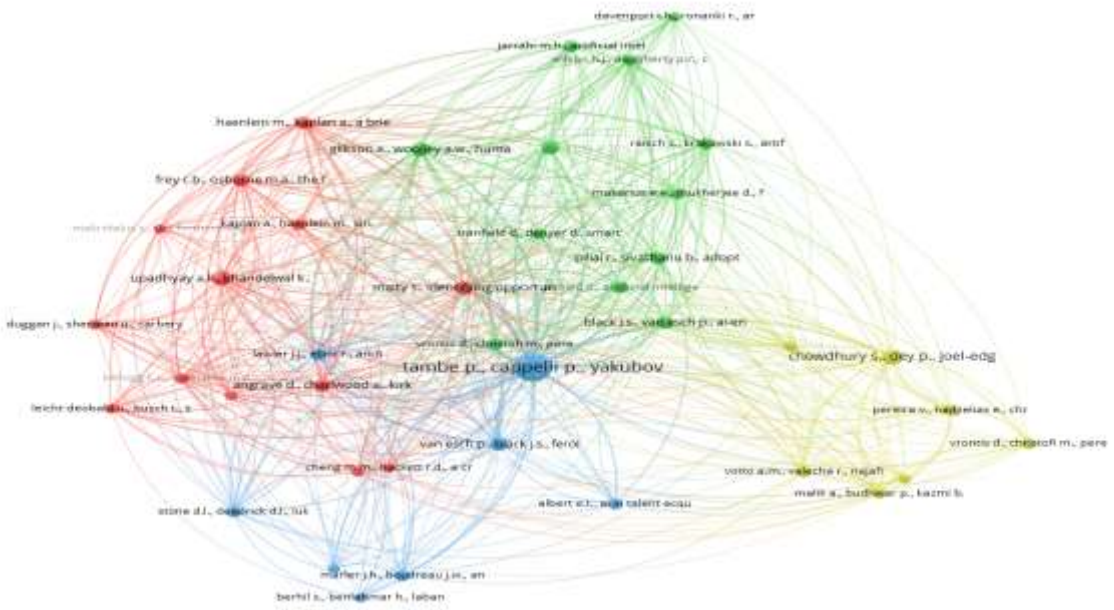

Figure 9 Co- citation analysis with cited reference

3.5.2. Cited sources

Co-citation with cited sources refers to the analysis of how often two or more cited sources such as journals, books, or other publication outlets—are referenced together in the bibliographies or reference lists of other research papers. This approach examines the relationships between the sources themselves, rather than specific articles or authors, and is commonly used to analyze the structure of scholarly communication within a field. In this bibliometric study, there are 11094 cited sources are involved and the co-citation threshold is selected to be 10 and 305 cited sources meet the threshold as shown in figure 10.

Figure 10 Co-citation analysis with cited sources

3.5.3. Cited authors

Co-citation with cited authors refers to the analysis of how often two or more authors are cited together in the reference lists of other research papers. It examines the relationships between authors based on their

joint appearances in citations, offering insights into the intellectual connections and collaborations within a research field. In this bibliometric study, there are cited authors 36954 are involved and the co-citation threshold is selected to be 20 and 277 cited authors meet the threshold as shown in figure 11.

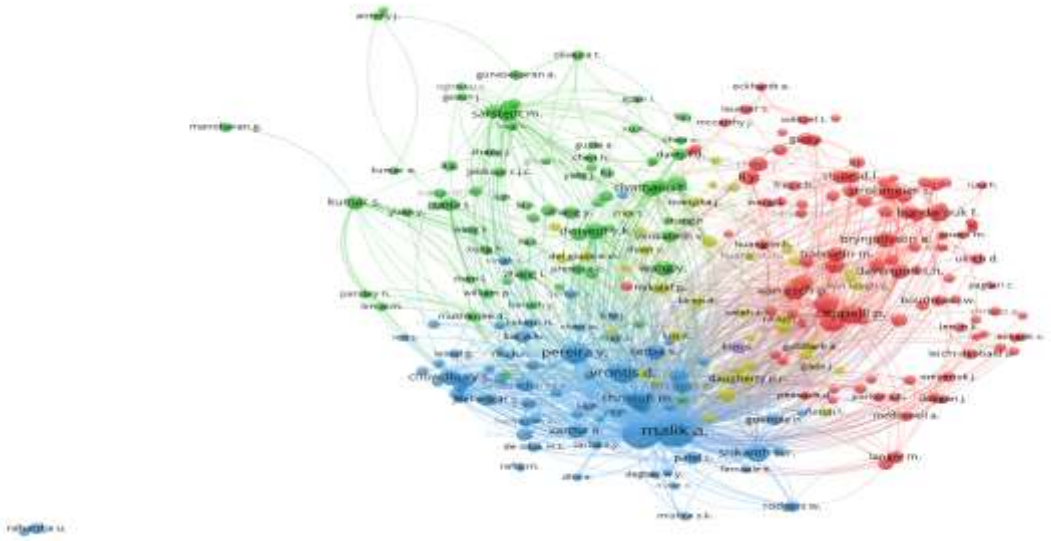

Figure 11 Co-citation analyis with cited authors

Discussion and Conclusion

This article focuses on the theme of "Artificial Intelligence and Human Resource Management" over the past decade, from 2014 to 2024. The paper sheds light on various structures related to the topic. One of the significant contributions of this study is the consolidation of over 477 research articles that were fragmented pieces of literature. The article also highlights substantial authors, sources, and documents that are relevant to the subject. Both AI and HRM dominate in terms of research output and impact, reflecting their relevance in addressing modern challenges in technology and organizational management. Emerging subfields, such as Industry 4.0 and Learning Systems, indicate future growth areas. While India leads with 112 publications, significant contributions from the United States, the United Kingdom, and China reflect the global nature of academic research. European countries, led by the UK, Germany, and France, maintain strong outputs, indicating a balance of traditional and emerging research powerhouses. Leading institutions, such as Aston University and Amity University, play critical roles in driving research productivity. Collaborative networks among authors enhance the overall impact, with authors like Pawan Budhwar and Ashish Malik acting as key connectors in their respective fields. Strengthen co-authorship networks to amplify the impact of emerging researchers and institutions, particularly in regions like Asia and Europe. Institutions should focus on mentoring programs and collaborations to uplift emerging authors and increase their citation impact. Capitalize on the strong foundation in AI and HRM to develop innovative solutions in technology-driven human resource management and organizational strategy. By addressing these areas, global academic communities can ensure sustained growth and innovation in research contributions.

Limitations of the study

The current article, like many, is also subject to limitations. In this study for the bibliometric study of

artificial intelligence and human resource management only uses Scopus data which is the largest bibliographic database but using only one data base may not cover all papers related to artifiicial intelligence and human resource management. It might miss research published in more specialized or regional journals, as well as gray literature or conference papers that are critical for understanding emerging AI applications in HRM. Highly cited works on AI might dominate the analysis, even if some newer studies with fewer citations are just as impactful or provide novel insights into AI's role in HRM. Focusing on citation counts and author networks might not fully capture the underlying challenges and theoretical debates in HRM, which could be essential to a deeper understanding of the field. Finally, it is important to note that while the bibliographic results provide both the number of papers and citations, the quantity of papers does not necessarily equate to the quality of research. Therefore, it is imperative to carefully evaluate research based on various metrics beyond just the number of citations.

Recommendations for future research

To conduct an extensive bibliometric analysis that uncovers more precise emerging trends and gaps, and potentially explores the various subtopics in greater depth, it is advised that future studies avoid limitations by incorporating as many databases as possible, including Dimension, Google Scholar, and Web of Science, in addition to the Scopus database. To encompass a broad range of pertinent studies, terms like "machine learning," "automation," and "personnel management" could be included. In addition to capturing contributions from various journals, conference proceedings, and gray literature, this would enable a more comprehensive examination of research trends. Future research could also focus on comparing the role of AI in HRM to other industries or sectors to get a more comprehensive view.

References

1. Abdeldayem, M. M., & Aldulaimi, S. H. (2020). Trends and opportunities of artificial intelligence in human resource management: Aspirations for the public sector in Bahrain. International Journal of Scientific & Technology Research, 9(1).
2. Achchab, S., & Temsamani, Y. K. (2021). Artificial intelligence use in human resources management: Strategy and operation's impact. In 2021 IEEE 2nd International Conference on Pattern Recognition and Machine Learning (PRML) (pp. 311–315). https://doi.org/10.1109/PRML52754.2021.9520719
3. Ahmi, A. (2022). Bibliometric analysis using R for non-coders: A practical handbook in conducting bibliometric analysis studies using Biblioshiny for Bibliometrix R package. Academic Press.
4. Åkerblad, L., Seppänen-Järvelä, R., & Haapakoski, K. (2021). Integrative strategies in mixed methods research. Journal of Mixed Methods Research, 15(2), 152–170. https://doi.org/10.1177/1558689820957125
5. Alan, H. (2023). A systematic bibliometric analysis on the current digital human resources management studies and directions for future research. Journal of Chinese Human Resources Management, 14(1), 38–59. https://doi.org/10.47297/wspchrmWSP2040-800502.20231401
6. Allal-Chérif, O., Yela Aránega, A., & Castaño Sánchez, R. (2021). Intelligent recruitment: How to identify, select, and retain talents from around the world using artificial intelligence. Technological Forecasting and Social Change, 169, 120822. https://doi.org/10.1016/j.techfore.2021.120822
7. Allam, S. (2021). AI-Assisted hiring process and older workers: An exploratory study. International Journal of Emerging Technologies and Innovative Research, 8(1), 681-687.

8. Andrieux, P., Johnson, R. D., Sarabadani, J., & Van Slyke, C. (2024). Ethical considerations of generative AI-enabled human resource management. Organizational Dynamics, 53(1), 101032. https://doi.org/10.1016/j.orgdyn.2024.101032
9. Atef, M., Elzanfaly, D., & Ouf, S. (2022). Early prediction of employee turnover using machine learning algorithms. International Journal of Electrical and Computer Engineering Systems, 13(2), 2. Advance online publication. https://doi.org/10.32985/ijeces.13.2.6
10. Basu, Dr. T., & Jana, Mr. S. J. (2023). AI-Enhanced eHRM: Revolutionizing Talent Acquisition for Maximum Benefits. Shodhak: A Journal of Historical Research, 13(10).
11. Basu, S., Majumdar, B., Mukherjee, K., Mukherjee, S., Munjald, C., & Palakshae, P. (2023). Artificial intelligence-HRM interactions and outcomes: A systematic review and causal configurational explanation. Human Resource Management Review, 33(1), 100893. https://doi.org/10.1016/j.hrmr.2022.100893
12. Bhalgat, K. H. (2019). An exploration of how Artificial Intelligence is impacting Recruitment and Selection process. Dublin Business School.
13. Black, J. S., & Van Esch, P. (2020). AI-enabled recruiting: What is it and how should a manager use it? Business Horizons, 63(2), 215–226.
14. Budhwar, P. S., & Malik, A. (2019). Call for papers: Artificial intelligence challenges and opportunities for international HRM. The International Journal of Human Resource Management.
15. Budhwar, P. S., & Malik, A. (2020). Call for papers: Leveraging artificial and human intelligence through human resource management. Human Resource Management Review.
16. Bughin, J., Seong, J., Manyika, J., Chui, M., & Joshi, R. (2018). Notes from the AI frontier: Modeling the impact of AI on the world economy. McKinsey Global Institute, 4.
17. Buzko, I., Dyachenko, Y., Petrova, M., Nenkov, N., Tuleninova, D., & Koeva, K. (2016). Artificial intelligence technologies in human resource development. Computer Modelling and New Technologies, 20(2), 26–29.
18. Cappelli, P., Tambe, P., & Yakubovich, V. (2018). Artificial intelligence in human resources management: Challenges and a path forward. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3263878
19. Channabasamma, S. Y., & Manusha Reddy, A. (2021). A contextual model for information extraction in resume analytics using NLP's spaCy. In S. Smys, V. E. Balas, K. A. Kamel, & P. Lafata (Eds.), Inventive computation and information technologies (pp. 395–404). Springer. https://doi.org/10.1007/978-981-33-4305-4_30
20. Choi, M. (2020). AI-Assisted hiring process and older workers: an exploratory study Innovation in Aging, 4(Suppl 1), 655.
21. Dahm, M., & Dregger, A. (2019). Der Einsatz von künstlicher Intelligenz im HR: Die Wirkung und Förderung der Akzeptanz von KI-basierten Recruiting-Tools bei potenziellen Nutzern. In Arbeitswelten der Zukunft (pp. 249–271). Springer. https://doi.org/10.1007/978-3-658-23397-6_14
22. Dattner, Tomas Chamorro-Premuzic, Richard Buchband, and Lucinda Schettler. 2019. The legal and ethical implications of using AI in hiring. Harvard Business Review 25 (2019).
23. De Laat, M., Joksimovic, S., & Ifenthaler, D. (2020). Artificial intelligence, real-time feedback and workplace learning analytics to support in situ complex problemsolving: A commentary. International Journal of Information and Learning Technology, 37(5), 267–277. https://doi.org/10.1108/IJILT-03-2020-0026

24. de Visser, E. J., Awad, E., & Kuppens, T. (2018). From "automation" to "autonomy": The importance of trust repair in human–machine interaction. Ergonomics, 61(11), 1432–1450. https://doi.org/10.1080/00140139.2018.1457720
25. Deepa, R., Sekar, S., Malik, A., Kumar, J., & Attri, R. (2024). Impact of AI-focused technologies on social and technical competencies for HR managers: A systematic review and research agenda. Technological Forecasting and Social Change, 123301. https://doi.org/10.1016/j.techfore.2024.123301
26. Devah Pager. 2003. The mark of a criminal record. American journal of sociology 108, 5 (2003), 937–975.
27. Dwivedi, Y.K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., ... Williams M.D. (2019). Artificial intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. International Journal of Information Management, 57, 101994.
28. Edionwe, T. (2017), "The fight against racist algorithms: Can we teach our machines to unlearn racism?", The Outline, May 22, available at: https://theoutline.com/post/1571/the-fight-against-racistalgorithms?zd=1&zi=uhapmzdb (accessed May 14, 2019).
29. Elizabeth H Gorman. 2005. Gender stereotypes, same-gender preferences, and organizational variation in the hiring
30. Elliott, D.; Soifer, E. AI Technologies, Privacy, and Security. Front. Artif. Intell. **2022**, 5, 826737
31. Evans, L., & Kitchin, R. (2018). A smart place to work? Big data systems, labour, control and modern retail stores. New Technology, Work and Employment, 33(1), 44–57.
32. EY. (2018). What if employment as we know it today disappears tomorrow? A forward-looking view of the workplace in Germany, Switzerland, and Austria in 2030. s.l.
33. Garg, S., & Rani, M. (2018). Artificial intelligence and its applications in human resource management. International Journal of Research in Advent Technology, 6(11), 3058-3061.
34. George Farkas. 2003. Cognitive skills and noncognitive traits and behaviors in stratification processes. Annual review
35. Haba, H. F., Bredillet, C., & Dastane, O. (2022). Green consumer research: Trends and way forward based on bibliometric analysis. Cleaner and Responsible Consumption, 100089.
36. Hemalatha, A., Kumari, P., Nawaz, N., & Gajenderan, V. (2021). Impact of Artificial Intelligence on Recruitment and Selection of Information Technology Companies. International Conference on Artificial Intelligence and Smart Systems (ICAIS). https://doi.org/10.1109/icais50930.2021.9396036
37. Herath, H. M. K. K. M. B., & Mittal, M. (2022). Adoption of artificial intelligence in smart cities: A comprehensive review. International Journal of Information Management Data Insights, 2 (1), Article 100076. 10.1016/j.jjimei.2022.100076
38. Hughes, C., Robert, L., Frady, K., & Arroyos, A. (2019a). Artificial intelligence, employee engagement, fairness, and job outcomes. Managing Technology and Middle- and LowSkilled Employees, July, 61–68. https://doi.org/10.1108/978-1-78973-077- 720191005
39. Iyer, S., Pani, A. K., & Gurunathan, L. (2020). User adoption of eHRM: An empirical investigation of individual adoption factors using the technology acceptance model. In S. K. Sharma, Y. K. Dwivedi, B. Metri, & N. P. Rana (Eds.), Re-imagining diffusion and adoption of information technology and systems: A continuing conversation (pp. 231–248). Springer International Publishing. https://doi.org/10.1007/978-3-030-64849-7_21

40. Jaiswal, A., Arun, C. J., & Varma, A. (2022). Rebooting employees: Upskilling for artificial intelligence in multinational corporations. The International Journal of Human Resource Management, 33(6), 1179–1208. https://doi.org/10.1080/09585192.2020.1863259
41. Jha, S.K., Jha, S., Gupta, M.K. (2020). Leveraging Artificial Intelligence for Effective Recruitment and Selection Processes. In: Bindhu, V., Chen, J., Tavares, J. (eds) International Conference on Communication, Computing and Electronics Systems. Lecture Notes in Electrical Engineering, vol 637. Springer, Singapore. https://doi.org/10.1007/978-981-15-2612-1_27
42. Jia, Q., Guo, Y., Li, R., Li, Y., & Chen, Y. (2018). A conceptual artificial intelligence application framework in human resource management. Proceedings of the International Conference on Electronic Business (ICEB), 106–114.
43. Johnson, R. D., Stone, D. L., & Lukaszewski, K. M. (2020). The benefits of eHRM and AI for talent acquisition. Journal of Tourism Futures, 7(1), 40–52. https://doi.org/10.1108/JTF-02-2020-0013
44. Jonker-Hoffren, P. (2020), "What is the employment potential of a lean platform? The case of Dutch self-employed service professionals", International Journal of Manpower, Vol. 42 No. 2, pp. 305-321, doi: 10.1108/IJM-01-2019-0037.
45. Kafi, A., Zainuddin, N., Saifudin, A. M., Shahron, S. A., Razalli, M. R., Musa, S., & Ahmi, A. (2023). Meta-analysis of food supply chain: Pre, during and post COVID-19 pandemic. Agriculture & Food Security, 12(1), 1–22. https://doi.org/10.1186/s40066-023-00425-5
46. Kaplan, A., Haenlein, M., 2019. Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. Bus. Horiz. 62 (1), 15–25.
47. Kaushal, N., Kaurav, R. P. S., Sivathanu, B., & Kaushik, N. (2023). Artificial intelligence and HRM: Identifying future research agenda using systematic literature review and bibliometric analysis. Management Review Quarterly, 73(2), 455–493. https://doi.org/10.1007/s11301-021-00259-9
48. Khatri, S., Pandey, D.K., Penkar, D., & Ramani, J. (2020). Impact of artificial intelligence on human resources bt - Data Management, analytics and innovation (N. Sharma, A. Chakrabarti, & V. E. Balas (eds.); pp. 365–376). Springer Singapore
49. Knobloch, T., & Hustedt, C. (2019). Der maschinelle Weg zum passenden Personal. Bertelsmann Stiftung, Stiftung Neue Verantwortung.
50. Lariviere, B., Bowen, D., Andreassen, T. W., Kunz, W., Sirianni, N. J., Voss, C., Wünderlich, N. V., & De Keyser, A. (2017). Service Encounter 2.0: An investigation into the roles of technology, employees, and customers. Journal of Business Research, 79, 238–246. https://doi.org/10.1016/j.jbusres.2017.03.008
51. Lariviere, B., Bowen, D., Andreassen, T. W., Kunz, W., Sirianni, N. J., Voss, C., Wu€nderlich, N. V., & De Keyser, A. (2017). Service Encounter 2.0": An investigation into the roles of technology, employees and customers. Journal of Business Research, 79, 238–246. https://doi.org/10.1016/j.jbusres.2017.03.008
52. Lauren A Rivera. 2015. Go with your gut: Emotion and evaluation in job interviews. American journal of sociology
53. Lawande, N., & Symbiosis Institute of Management Studies, Symbiosis International University. (2024). Exploring the trends of artificial intelligence in recruitment: A bibliometric study [Bibliometric study]. International Journal of Supply and Operations Management, 11(3), 351–366. https://doi.org/10.22034/IJSOM.2024.110284.3016
54. Lucci, S., & Kopec, D. (2015). Artificial intelligence in the 21st century. Stylus Publishing, LLC.

55. Makarius, E.E., Mukherjee, D., Fox, J.D. and Fox, A.K., 2020. Rising with the machines: A sociotechnical framework for bringing artificial intelligence into the organization. Journal of Business Research, 120, pp.262-273.
56. Malik, A., & Nguyen, M. (2022). Knowledge sharing in enhancing employee service quality in the hotel industry: The moderating role of artificial intelligence. International Marketing Review, 39(3), 482–508. https://doi.org/10.1108/IMR-02-2021-0078
57. Malik, A., Budhwar, P., Patel, C., & Srikanth, N. R. (2022b). May the bots be with you! Delivering HR cost-effectiveness and individualized employee experiences in an MNE. International Journal of Human Resource Management, 33(6), 1148–1178.
58. Malik, A., Budhwar, P., Srikanth, N.R., 2020. The gig economy, 4IR and artificial intelligence: Rethinking strategic HRM. In: Human & Technological Resource Management (HTRM): New Insights into Revolution 4.0. Emerald Publishing Limited, pp. 75–88.
59. Malik, A., Nguyen, M., Budhwar, P. (2022a). Antecedents and consequences of an artificial intelligence-mediated knowledge-sharing social exchange: Towards a conceptual model. IEEE Transactions on Engineering Management. https://doi.org/10.1109/TEM.2022.3163117
60. Manyika, J., Lund, S., Chui, M., Bughin, J., Woetzel, J., Batra, P., Ko, R., & Sanghvi, S. (2017). Jobs lost, jobs gained: Workforce transitions in a time of automation. McKinsey Global Institute, 150(1), 1–148.
61. Marler, J. H., & Boudreau, J. W. (2017). An evidence-based review of HR analytics. The International Journal of Human Resource Management, 28(1), 3–26. https://doi.org/10.1080/09585192.2016.1244699
62. Matsa, P., & Gullamajji, K. (2019). To study the impact of artificial intelligence on human resource management. International Research Journal of Engineering and Technology (IRJET, 6(8), 1231–1238.
63. Mefi, N. P., & Asoba, S. N. (2021). Sustainable human resource practices for organizational competitiveness post the COVID-19 pandemic. Academy of Entrepreneurship Journal, 27(2), 1–7.
64. Merendino, A., Dibb, S., Meadows, M., Quinn, L., Wilson, D., Simkin, L., & Canhoto, A. (2018). Big data, big decisions: The impact of big data on board-level decision-making. Journal of Business Research, 93, 67–78.
65. Mikalef, P. and Gupta, M., 2020. Artificial Intelligence Capability: Conceptualization, measurement calibration, and empirical study on its impact on organizational creativity and firm performance. Information & Management, p.103434.
66. Mohbey, K. K., & Kumar, S. (2022). The impact of big data in predictive analytics towards technological development in cloud computing. International Journal of Engineering Systems Modeling and Simulation, 13 (1), 61–75.
67. Morshidi, A. B., Satar, N. S. M., Azizan, A. A. D. A., Idris, R. Z., Idris, R., Radzi, M. S. M., Yusoff, S. M., & Sarjono, F. (2023). A bibliometric analysis of artificial intelligence and human resource management studies. In Advances in Human Resources Management and Organizational Development (pp. 85–117). https://doi.org/10.4018/979-8-3693-0039-8.ch006
68. Nawaz, N. (2019). How far have we come with the study of artificial intelligence for the recruitment process? International Journal of Scientific & Technology Research, 8(7), 488–493.
69. Nicol Turner Lee. 2018. Detecting racial bias in algorithms and machine learning. Journal of Information, Communication and Ethics in Society (2018)

70. Nikolaou, I. (2014), "Social networking web sites in job search and employee recruiting", International Journal of Selection and Assessment, Vol. 22, pp. 179-189.
71. Olan, F., Nyuurb, R. B., Arakpogun, E. O., & Elsahn, Z. (2023). AI: A knowledge-sharing tool for improving employees' performance. Journal of Decision Systems. https://doi.org/10.1080/12460125.2023.2263687
72. Pan, Y., & Froese, F. J. (2022). An interdisciplinary review of AI and HRM: Challenges and future directions. Human Resource Management Review, 33(1), 100881.
73. Pandey, S., & Bahukhandi, M. (2022). Applicants' perception towards the application of AI in the recruitment process. 2022 Interdisciplinary Research in Technology and Management (IRTM), 1–6. https://doi.org/10.1109/IRTM54583.2022.9791587
74. Paschen, J., Kietzmann, J., & Kietzmann, T. C. (2019). Artificial intelligence (AI) and its implications for market knowledge in B2B marketing. Journal of Business & Industrial Marketing, 34(7), 1410–1419. https://doi.org/10.1108/JBIM-10-2018-0295
75. Patel, C., Budhwar, P., Witzemann, A., & Katou, A. (2019). HR outsourcing: The impact on HR's strategic role and remaining in-house HR function. Journal of Business Research, 103, 397–406. https://doi.org/10.1016/j.jbusres.2017.11.007
76. Pereira, V., Hadjielias, E., Christofi, M., & Vrontis, D. (2023). A systematic literature review on the impact of artificial intelligence on workplace outcomes: A multi-process perspective. Human Resource Management Review, 33(1), 10085
77. Pillai, R., & Sivathanu, B. (2020). Adoption of artificial intelligence (AI) for talent acquisition in IT/ITeS organizations. Benchmarking: An International Journal, 27(9), 2599–2629. https://doi.org/10.1108/BIJ-04-2020-0186
78. Pillai, R., Ghanghorkar, Y., Sivathanu, B., & Algharabat, R. (2023). Adoption of artificial intelligence (AI)-based employee experience (EEX) chatbots. Information Technology & People, ahead-of-print. https://doi.org/10.1108/ITP-04-2022-0287
79. Prikshat, V., Islam, M., Patel, P., Malik, A., Budhwar, P., & Gupta, S. (2023a). AI-augmented HRM: Literature review and a proposed multilevel framework for future research. Technological Forecasting and Social Change, 193, 122645. https://doi.org/10.1016/j.techfore.2023.122645
80. Prikshat, V., Malik, A., & Budhwar, P. (2023b). AI-augmented HRM: Antecedents, assimilation, and multilevel consequences. Human Resource Management Review, 33(1), 100860. https://doi.org/10.1016/j.hrmr.2022.100860
81. Rai, A., & Singh, L. B. (2023). Artificial intelligence-based people analytics transforming human resource management practices. In P. Tyagi, N. Chilamkurti, S. Grima, K. Sood, & B. Balusamy (Eds.), The adoption and effect of artificial intelligence on human resources management, part a (pp. 229–244). Emerald Publishing Limited. https://doi.org/10.1108/978-1-80382-027-920231012
82. Rauf, M. A., Ashfaq, M., Hasan, R., & Manju, M. A. (2021). A comparative study on the impact of artificial intelligence on employment opportunities for university graduates in Germany and the Netherlands: AI opportunities and risks. International Journal of Environment, Workplace and Employment, 6(3). https://doi.org/10.1504/IJEWE.2021.119679
83. Robert, L. P., Pierce, C., Marquis, L., Kim, S., & Alahmad, R. (2020). Designing fair AI for managing employees in organizations: A review, critique, and design agenda. Human–Computer Interaction, 35(5–6), 545–575. https://doi.org/10.1080/07370024.2020.1735391

84. Roemmich, K., Rosenberg, T., Fan, S., & Andalibi, N. (2023). Values in Emotion Artificial Intelligence Hiring Services: Technosolutions to Organizational Problems. Proceedings of the ACM on Human-Computer Interaction, 7(CSCW1), 1–28. https://doi.org/10.1145/3579543
85. Schmidt, P., Biessmann, F. and Teubner, T. (2020) 'Transparency and trust in artificial intelligence systems', Journal of Decision Systems. Taylor & Francis, 29(4), pp. 260–278
86. Serban, A., Yammarino, F. J., Dionne, S. D., Kahai, S. S., Hao, C., McHugh, K. A., & Peterson, D. R. (2015). Leadership emergence in face-to-face and virtual teams: A multi-level model with agent-based simulations, quasi-experimental and experimental tests. The Leadership Quarterly, 26(3), 402–418.
87. Sivathanu, B., & Pillai, R. (2018). Smart HR 4.0 – How industry 4.0 is disrupting HR. Human Resource Management International Digest, 26(4), 7–11. https://doi.org/10.1108/HRMID-04-2018-0059
88. Spencer, A. J., Buhalis, D., & Moital, M. (2012). A hierarchical model of technology adoption for small owner-managed travel firms: An organizational decision-making and leadership perspective. Tourism Management, 33(5), 1195–1208.
89. Strohmeier, S., & Piazza, F. (2015). Artificial intelligence techniques in human resource management: A conceptual exploration. In Intelligent techniques in engineering management (Vol. 87, pp. 149–172). Springer. https://doi.org/10.1007/978-3-319-17906-3_7
90. Tambe, P., Cappelli, P., & Yakubovich, V. (2019). Artificial intelligence in human resources management: Challenges and a path forward. California Management Review, 61(4), 15–42.
91. The Ohio State University, Wooster Campus Research Library, CFAES Wooster Campus. (2022, February 17). What is citation analysis? Retrieved January 14, 2025, from https://osu.libguides.com/oardc/citation_analysis/whatis
92. Von Krogh, G. (2018). Artificial intelligence in organizations: New opportunities for phenomenon-based theorizing. Academy of Management Discoveries, 4(4), 404–409. https://doi.org/10.5465/amd.2018.0084
93. Votto, A. M., Valecha, R., Najafirad, P., & Rao, H. R. (2021). Artificial intelligence in tactical human resource management: A systematic literature review. International Journal of Information Management Data Insights, 1(2), 100047. https://doi.org/10.1016/j.jjimei.2021.100047
94. Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. (n.d.). Artificial intelligence, robotics, advanced technologies, and human resource management: A systematic review. The International Journal of Human Resource Management, 32(20), 4291–4333. https://doi.org/10.1080/09585192.2020.1871398
95. Wamba-Taguimdje, S.L., Wamba, S.F., Kamdjoug, J.R.K. and Wanko, C.E.T., 2020. Influence of artificial intelligence (AI) on firm performance: the business value of AI-based transformation projects. Business Process Management Journal.
96. Wilson, H. J., Daugherty, P. R., & Morini-Bianzino, N. (2017). The jobs that artificial intelligence will create. MIT Sloan Management Review, 5(4).
97. Zhang, Y., Zhang, M., Li, J., Liu, G., Yang, M. M., & Liu, S. (2021). A bibliometric review of a decade of research: Big data in business research – Setting a research agenda. Journal of Business Research, 131, 374–390. https://doi.org/10.1016/j.jbusres.2020.11.004