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Exploring the Intersection of Artificial Intelligence and Human Resource Management: A Bibliometric Study

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Abstract: Artificial Intelligence presents promising opportunities to improve efficiency, enhance decision-making, and boost employee engagement within human resource management. This study explores the intersection of Artificial Intelligence and Human Resource Management through an in-depth bibliometric analysis, offering a comprehensive overview of research trends and advancements over the past decade. Drawing from the Web of Science database, this research examined 491 journal articles published from 2014 to 2023. AI applications in Human Resource Management have been particularly valuable during the COVID-19 pandemic, aiding healthcare professionals, facilitating remote work, and optimizing workforce management under challenging conditions. Implementing Artificial Intelligence in Human Resource Management leadership management and information management has significantly improved organizational processes and outcomes. The study concludes that ongoing advancements in Artificial Intelligence technology will continue to enhance Artificial Intelligence practices, leading to a more adaptable, responsive, and efficient workforce capable of addressing future challenges.

Keywords: artificial intelligence; bibliometric analysis; human resource management

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1. Introduction

With the Industrial Revolution 4.0, new 'smart' electronic devices have entered every phase of our lives, and the world has experienced a rapid digitalization transformation process. This revolution aims to integrate technologies including the Internet of Things, cloud computing, big data analytics, and artificial intelligence (AI) into our lives. It identifies the opportunities and challenges of individuals and institutions in the face of digital transformation (Ebekozién & Aigbavboa, 2021).

Artificial intelligence is one of the branches of computer science and one of the cornerstones of the technology and electronics industry in the modern era (Aggarwal et al., 2022; Tsaramirsis et al., 2022; Saura, Ribeiro-Soriano, & Palacios-Marqués, 2021; Mijwil et al., 2022). Artificial intelligence can be defined as the ability of digital machines and computers to think or learn from past experiences, make decisions, or perform certain tasks that simulate human behavior and resemble humans for operations that require cognitive processes (Rammo & Al-Hamdani, 2022; Murad, Rejeb, & Said, 2022). Additionally, artificial intelligence aims to obtain systems that behave like humans in terms of learning and understanding. (McCarthy, 2004) defines a computer's ability to perform high-level cognitive skills as artificial intelligence. Another scientist who explained artificial intelligence is Marvin Minsky. Minsky, who carries out studies on modeling high-level cognitive processes, has made great contributions to the field of artificial intelligence (Minsky, 1974; Häuselmann, 2024). Artificial intelligence, which has recently become an important and indispensable part of our lives, is trusted in many areas of society (Bohr & Memarzadeh, 2020). Artificial intelligence can meet the needs of individuals in private lives. For example, artificial intelligence-based devices can work to support visually impaired people. As an example, Microsoft has applications that tell visually impaired people about their surroundings, so that visually impaired individuals do not feel a lack of vision (Novet, 2017). Artificial intelligence has also become very popular in practice since the emergence of the COVID-19 pandemic, supporting many doctors in analysing patient data and determining the rate of infection with the virus (Mijwil & Al-Zubaidi, 2021; Mijwil, 2021; Mijwil et al., 2022). Artificial intelligence strives to save the world from disasters, meet the needs of children, protect refugees and displaced persons, and support human rights (Dwivedi et al., 2020). Artificial intelligence has provided commercial advantages to companies and organizations to maintain operational efficiency amidst the difficult economic conditions that the world has been going through since 2019 (Pal, 2022). Since the outbreak of COVID-19, the public and private sectors around the world have used artificial intelligence as one of the adequate tools to combat the COVID-19 virus. In the healthcare sector, artificial intelligence is used by healthcare professionals and doctors to diagnose patients with chest X-rays and to develop practical vaccines (Ilyas, Rehman, & Naït-Ali, 2020).

Human resources management (HRM) is the process of recruiting, training, developing, motivating, and evaluating enough qualified personnel to perform the functions required for businesses to achieve their goals (Seyyar, 2007). All activities focused on providing and coordinating an organization's human resources constitute human resources management. In other words, human resources management is the sum of the activities carried out to find qualified personnel for an organization and keep them in the organization (Özden, 2006). It is a management approach that focuses on people, handles employee relations within an administrative structure, develops policies tailored to the corporate culture, and serves as a key function in corporate management (Kuluçlu, 2007). Human resources management is generally very different from personnel management and does not include brand-new approaches that are not found in these fields. However, human resources management handles human-related approaches systematically and in multifaceted integrity, in parallel with the nature of humans as social beings. According to Xxxx, the human resource management approach differs from traditional personnel management with two dominant features of HRM. The first is the dimension of HRM that focuses on people, and the second is the expanded interpretation of the concepts of organizational environment and environment (Açıkalın, 2002).

The increasing use of AI in HRM, especially the interaction between AI systems and managerial cognition, impacts the mental processes managers use to analyse information, solve problems and make decisions (Ragni, 2020; Budhwar et al., 2022). HRM benefits from managerial cognition, especially in complex problem-solving situations where human intuition and expertise are required to navigate uncertainty and large data sets. Artificial intelligence is changing the hiring process by automating tasks traditionally done by humans, such as candidate matching and CV screening. AI-enabled recruitment systems, such as those discussed by (Oswal et al., 2021), have been shown to simplify the hiring process, increase accuracy in candidate selection, and reduce bias. From changing hiring procedures to improving talent management, employee engagement, and overall human resource operations, AI can change how companies manage their most valuable asset - their employees. The incorporation of AI into talent management and development has changed the way companies support and empower their people. Data-driven insights help employees realise their potential by personalising learning experiences, assisting with succession planning, and suggesting career paths. It also helps companies strategically manage their talent.

Achieving and maintaining competitive advantages plays an important role in the growth of organizations. Although organizations follow a path with this aim, human resources management demonstrates an approach that includes the most advanced techniques in this regard. "The objectives of human resources include creating an attractive environment for qualified personnel, keeping successful employees in the organization, and motivating employees."

The primary principle of human resources management is respect for people. Respect for people is based on the principle of trusting and valuing people in decisions taken, work, activities, performances, studies, and intra-organizational relations. The study of Hitka, et al (2019), human resource management is very important when transforming knowledge into intellectual capital, as the creative power belongs to humans. Education, in general terms, is the process of providing information and developing talents and skills. Personnel training, on the other hand, aims to improve the professional knowledge of employees and the groups they form, so that they can perform their current or future duties in the enterprise more effectively, and make positive contributions to their thoughts, rational decision-making, behavior, and attitudes, habits and understanding. According to (Yıldız et al., 2002), it is all the educational activities that increase knowledge and skills. The first thing, when developing human resources is the current cross-section of people. In other words, it is its location, its visible face, its showcase, its superstructure, its foreground. However, his or her life and infrastructure up to the current situation and context constitute his or her background. The individual's background determines the starting point of development. (Yıldız et al., 2002) argues that:

In order to determine where to start development work, it is necessary to know the background of the individual. The infrastructure of the individual can be considered as biological (physical-physical dimension), psychological (spiritual dimension), and social (social-environmental dimension).

The artificial intelligence (AI) technologies used in this study span a wide range. In particular, specific AI subfields such as machine learning, deep learning, and neural networks play important roles in human resource management (HRM). Machine learning is widely used to screen candidates' resumes with big data analytics and optimise the recruitment process. In particular, it is used to reduce bias in candidate evaluations, make performance predictions, and increase employee engagement (Dwivedi et al., 2020). Deep learning algorithms are used to predict employee performance and job satisfaction. This technology enables efficient decisions to be made, especially to reduce employee turnover (Aggarwal et al., 2022). Neural networks are used in big data analysis to predict employee performance and workforce planning. Thanks to this technology, promotion processes can be optimised by predicting the future success potential of employees (Mijwil et al., 2021). The effects of these sub-technologies on HRM contribute to HRM, especially in important issues such as employee productivity, engagement, and performance prediction.

This study aims to describe the developments in the field with the use of artificial intelligence in human resources management by using bibliometric analysis.

2. Method

2.1. Research Method

This study aims to delineate the advancements in the utilization of artificial intelligence in human resource management, employing bibliometric analysis to guide the research. (Aria & Cuccurullo, 2017) has stated that bibliometrics serve to address three pivotal questions. Firstly, it defines the fundamental knowledge and intellectual structure within a research domain; secondly, it investigates the forefront or conceptual framework of the field; and lastly, it maps the social network structure of the pertinent scientific community.

As illustrated in Figure 1, the selected methodology has facilitated the identification of key elements within the field: the most cited documents, the most productive authors, emerging trend keywords, and both the driving forces and directions of artificial intelligence usage in human resource management.

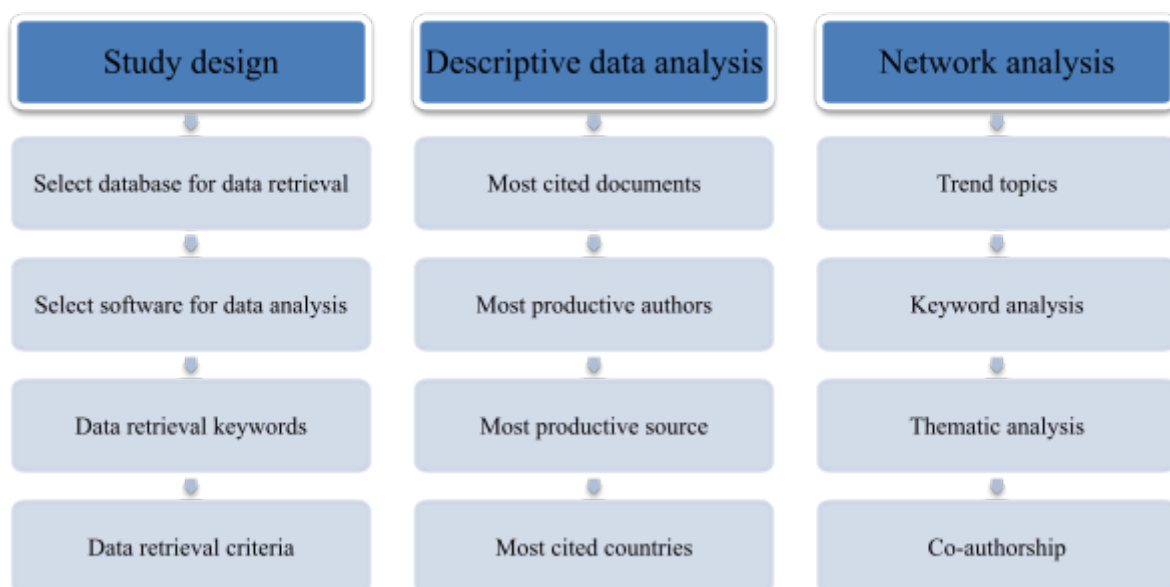


Figure 1. Study design

The implementation of the methodology has been divided into five critical stages according to the bibliometric mapping standards established by (Zupic & Čater, 2015): study design, data collection, data analysis, data visualization, and interpretation.

2.2. Study design

The study design phase is critically important in shaping the research framework as it involves formulating research questions that will guide the study and selecting appropriate methodologies to address these questions (Aria & Cuccurullo, 2017). Additionally, this phase requires making strategic decisions regarding various elements of the research process. These include determining the time frame during which the study will be conducted, identifying the keywords that will guide the literature review, selecting the databases to find the relevant literature, and choosing the software tools necessary for data analysis. Each of these decisions aims to develop an approach that will effectively meet the study's objectives.

2.3. Data Collection

Data collection for this research was primarily conducted using the Web of Science database, known for its selective journal coverage and frequent adoption in bibliometric studies (Singh et al., 2021). The literature search was performed using specific keywords relevant to the study's focus: (("human resource*" AND "management") OR "HRM") AND ("AI" OR "artificial intelligence" OR "machine learning" OR "deep learning" OR "Neural network*"). These keywords were searched in the titles, abstracts, or keyword sections of publications. To effectively capture the latest developments, the time frame for the literature search was set to 2014-2023.

Since journals typically publish the most up-to-date research findings and are more detailed compared to other types of publications such as conference proceedings, which were more affected by postponements and cancellations due to the COVID-19 pandemic, the study considered only journal articles to ensure the data's currency and rigor (Jin et al., 2018). The initial search yielded 805 documents, which were then filtered by year range, article type, and language to reduce the number to 491 relevant articles.

2.4. Data Analysis

In this study, Biblioshiny was employed to conduct a comprehensive analysis of AI-related research trends within the broader context of human resource management (HRM) literature. The methodology involved a systematic data filtering process, categorization of AI-related studies, tracking of AI trends in HRM, and visualization of results, all of which are supported by various scholarly works. The data filtering process began with the retrieval of 805 documents from the Web of Science database. To isolate AI-related studies, a set of predefined keywords such as "AI", "artificial intelligence", "machine learning", "deep learning", and "neural networks" was utilised. This approach aligns with the systematic literature review (SLR) methodologies discussed by Jatobá et al., who emphasise the importance of structured filtering to generate knowledge and guide policy development in HRM contexts (Jatobá et al., 2024). The inclusion criteria mandated that these keywords appear in the title, abstract, or keyword section of the articles, ultimately refining the dataset to 491 articles that explicitly addressed AI in HRM. This rigorous filtering process is crucial, as it ensures that the analysis is focused on relevant literature, a point reinforced by the findings of Qamar et al., who conducted a systematic review of AI applications in HRM (Qamar et al., 2021). Following the isolation of AI-specific documents, the next step involved categorising these articles according to the AI subfields they addressed. This categorization was facilitated by a keyword co-occurrence analysis using Biblioshiny, which identified frequently occurring terms and allowed for the segmentation of literature into various applications of AI in HRM. Such thematic categorization is essential for understanding the diverse applications of AI technologies in HRM, as highlighted by Tabor-Błażewicz, who notes that the literature reflects a growing interest in AI's role in enhancing HRM practices (Tabor-Błażewicz, 2023). Additionally, the categorization process supports the identification of trends and debates within the field, as discussed by Afzal et al., who reviewed the broad applications of AI in HRM (Afzal et al., 2023). To track the evolution of AI trends in HRM, a time series analysis was conducted using Biblioshiny's visualization tools. This analysis revealed the most prolific years in AI-HRM research, the most contributing authors, and the journals that published the most articles on the topic. The importance of tracking such trends is underscored by Johnson et al., who argue that understanding the historical context of AI integration into HRM can inform future research and practice (Johnson et al., 2022). Furthermore, the thematic matching functions in Biblioshiny facilitated the identification of emerging AI-related keywords over time, illustrating how the focus of AI-HRM research has evolved from basic applications to more sophisticated implementations, as noted by Mohture (Mohture, 2022). The filtered data was then visualised using the concurrency network features in Biblioshiny, which allowed for the identification of prominent themes and trends in AI research within HRM. This visualization not

only highlighted the collaborative patterns among authors and institutions but also mapped the social structure of the research community, a concept discussed by Böhmer and Schinnenburg, who emphasise the role of AI in building organizational capabilities (Böhmer & Schinnenburg, 2023). Such visualizations are critical for understanding the interconnectedness of research efforts and the collaborative nature of advancements in AI applications in HRM. In summary, the comprehensive analysis conducted using Biblioshiny effectively isolated and categorised AI-related studies within HRM literature tracked evolving trends, and visualised the results to provide insights into the current state and prospects of AI in HRM. This methodological approach is supported by a robust body of literature that underscores the significance of AI in transforming HRM practices and highlights the need for ongoing research in this dynamic field.

2.5. Results

2.5.1. Main Information About the Article

Table 1. Main Information About the Article

Main Information About Data	Results
Timespan	2014:2023
Sources (Journals, Books, etc)	309
Documents	491
Annual Growth Rate %	24.57
Document Average Age	2.5
Average citations per doc	13.41
References	26027
DOCUMENT CONTENTS	
Keywords Plus (ID)	1011
Author's Keywords (DE)	1600
AUTHORS	
Authors	1730
Authors of single-authored docs	52
AUTHORS COLLABORATION	
Single-authored docs	53
Co-Authors per Doc	3.85
International co-authorships %	33.4
DOCUMENT TYPES	
Article	442
Review	49

This table presents key bibliometric data on 491 documents published between 2014 and 2023, sourced from 309 different outlets, including journals and books. The annual growth rate of publications is 24.57%, reflecting the rapidly increasing interest in the intersection of Artificial Intelligence and Human Resource Management. The average age of the documents is 2.5 years, and each document has been cited an average of 13.41 times, with a total of 26,027 references used across all publications.

The content analysis shows that 1,011 "Keywords Plus" terms and 1,600 "Author's Keywords" were used, indicating a wide range of research topics. The study involved 1,730 authors, with 52 of them producing single-authored documents. In terms of collaboration, 53 documents were single-authored, while co-authorship was prevalent, with an average of 3.85 co-authors per document. Notably, 33.4% of the documents involved international collaboration. Finally, the document types are primarily articles (442), with 49 reviews included in the data set.

2.5.2. Most Relevant Sources

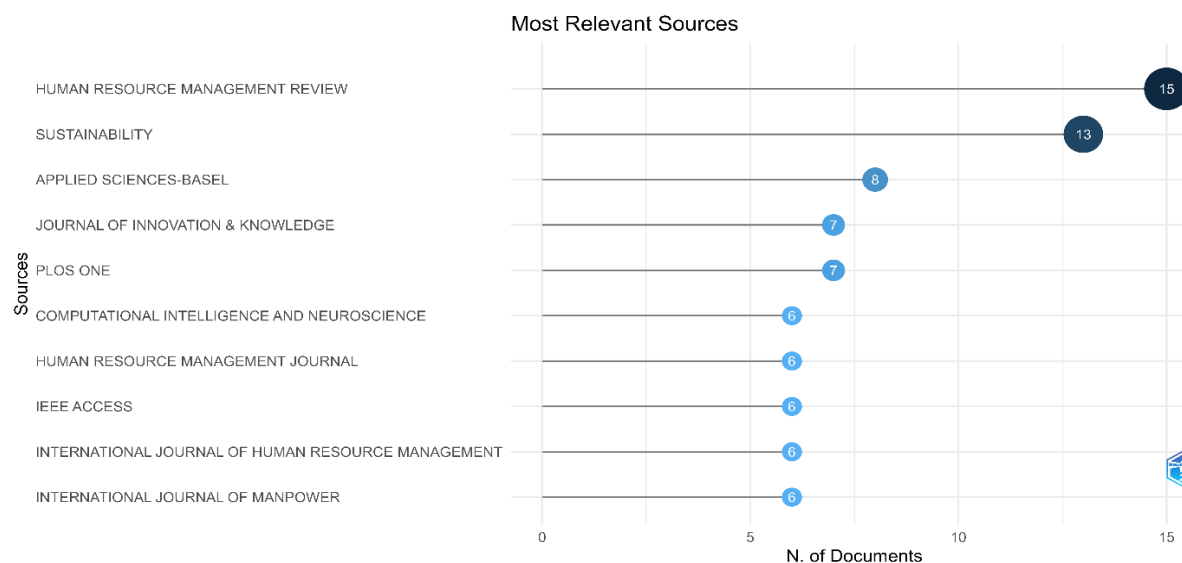


Figure 2. The most relevant sources are Human Resources Review and Sustainability.

Figure 2 highlights the most relevant sources for publications on Artificial Intelligence and Human Resource Management. The *Human Resource Management Review* is the leading source with 15 documents, followed by *Sustainability* with 13. Other notable journals include *Applied Sciences-Basel*, *Journal of Innovation & Knowledge*, and *Plos One*, each contributing between 7 and 8 documents. Additionally, sources like *Computational Intelligence and Neuroscience*, *IEEE Access*, and the *International Journal of Human Resource Management* play key roles, demonstrating the multidisciplinary nature of research in this field.

2.5.3. Most Relevant Authors

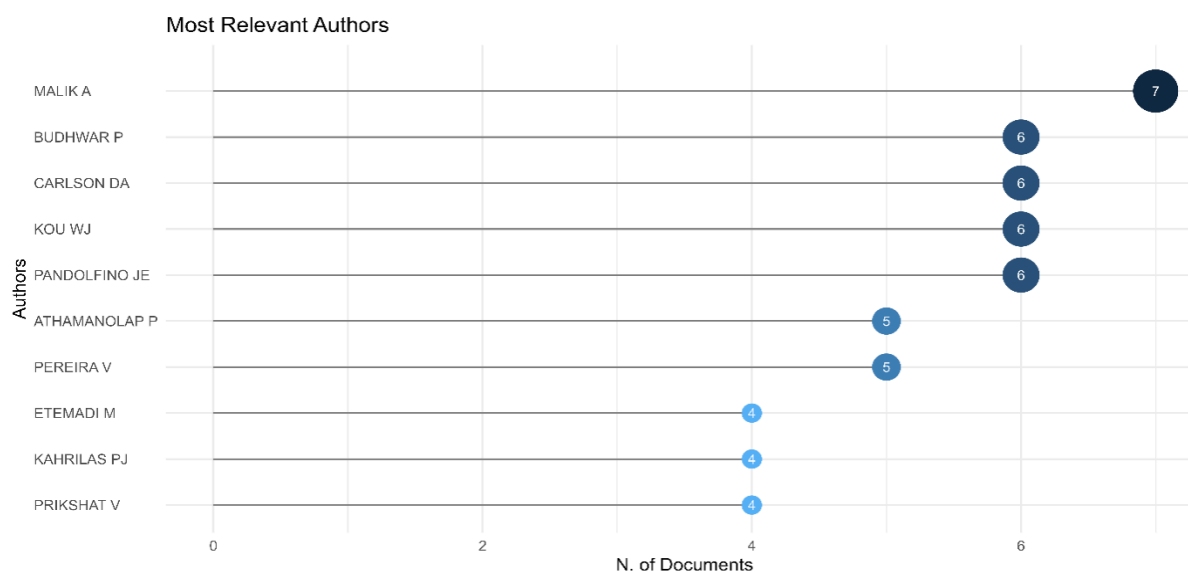


Figure 3. The most relevant authors

Figure 3 highlights the most relevant authors contributing to research at the intersection of Artificial Intelligence and Human Resource Management. Leading the group is **Malik, A.**, with

seven publications. Following closely, **Budhwar, P., Carlson, D.A., Kou, W.J., and Pandolfino, J.E.** each contributed six documents to the field. Other influential authors, such as **Athamanolap, P. and Pereira, V.**, have five publications, while several authors, including **Etemadi, M., Kahrilas, P.J., and Prikshat, V.**, have four. This demonstrates a strong and diverse body of scholarship, with key contributors driving the exploration of AI applications in HRM.

2.5.4. Most Relevant Affiliations

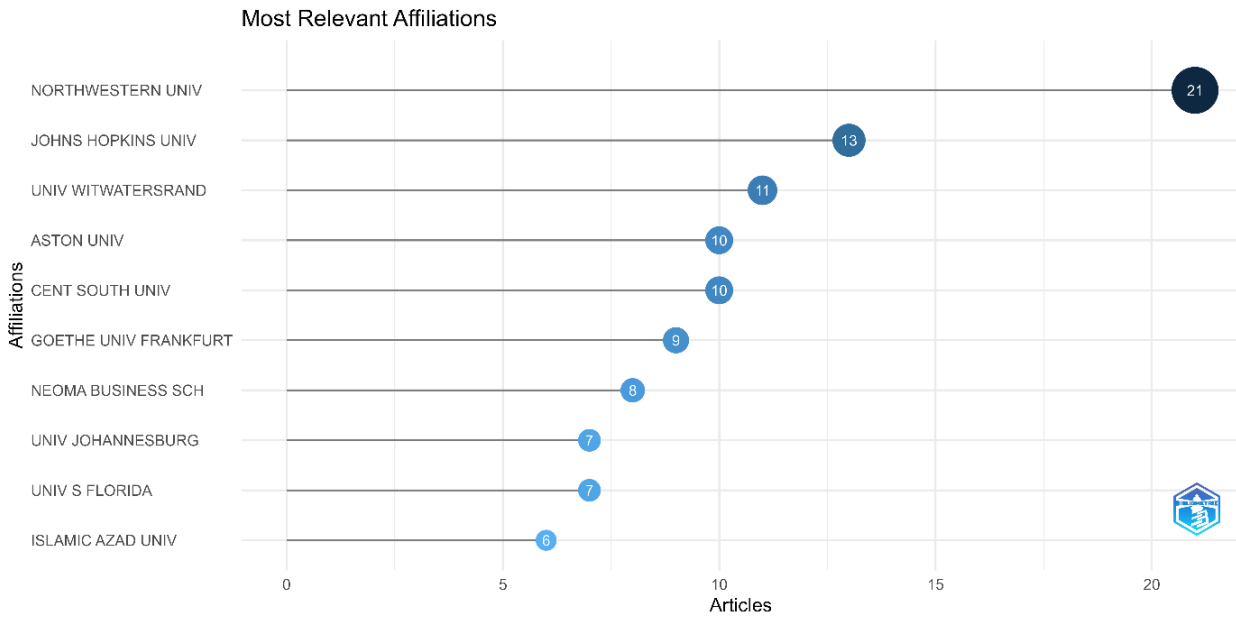


Figure 4. The most common affiliations

Figure 4 presents the most common affiliations of authors contributing to research on Artificial Intelligence and Human Resource Management. **Northwestern University** leads with 21 articles, followed by **Johns Hopkins University** with 13 articles. Other prominent affiliations include the **University of the Witwatersrand** with 11 articles, and both **Aston University** and **Central South University** contributing 10 articles each. Institutions such as **Goethe University Frankfurt**, **NEOMA Business School**, and the **University of Johannesburg** also have notable contributions, showcasing the global and interdisciplinary nature of this research field. This indicates significant engagement from leading universities across different regions.

2.5.5. Most Relevant Countries

Table 2. Most Relevant Countries

Country	Articles	SCP	MCP	Freq	MCP_Ratio
CHINA	110	86	24	0,224	0,218
USA	52	45	7	0,106	0,135
INDIA	37	26	11	0,075	0,297
UNITED KINGDOM	24	10	14	0,049	0,583
GERMANY	18	14	4	0,037	0,222
AUSTRALIA	17	4	13	0,035	0,765

ITALY	17	7	10	0,035	0,588
FRANCE	16	6	10	0,033	0,625
IRAN	13	10	3	0,026	0,231
KOREA	12	8	4	0,024	0,333
POLAND	12	9	3	0,024	0,25
CANADA	10	8	2	0,02	0,2
BRAZIL	9	6	3	0,018	0,333
ROMANIA	9	7	2	0,018	0,222
SPAIN	9	8	1	0,018	0,111
TURKEY	8	8	0	0,016	0
FINLAND	7	3	4	0,014	0,571
PORTUGAL	7	6	1	0,014	0,143
RUSSIA	7	3	4	0,014	0,571
MALAYSIA	6	4	2	0,012	0,333

Table 2 presents the most relevant countries contributing to research in Artificial Intelligence and Human Resource Management. **China** leads with 110 articles, with a strong focus on single-country publications (SCP) but also contributing to multi-country collaborations (MCP), reflected in an MCP ratio of 0.218. The **USA** follows with 52 articles and an MCP ratio of 0.135, showing a moderate level of international collaboration. **India** ranks third with 37 articles, and its MCP ratio of 0.297 indicates a relatively higher level of international collaboration compared to the USA and China.

The United Kingdom shows a significant MCP ratio of 0.583, highlighting its strong tendency for collaborative research across countries, while **Australia** (MCP ratio of 0.765) and **Italy** (MCP ratio of 0.588) also exhibit high levels of international co-authorship. Other notable contributors include **Germany**, **France**, and **Iran**, with varying degrees of collaborative research. This table demonstrates the global interest and collaboration in AI applications within HRM, with countries like the UK, Australia, and France leading in international research partnerships.

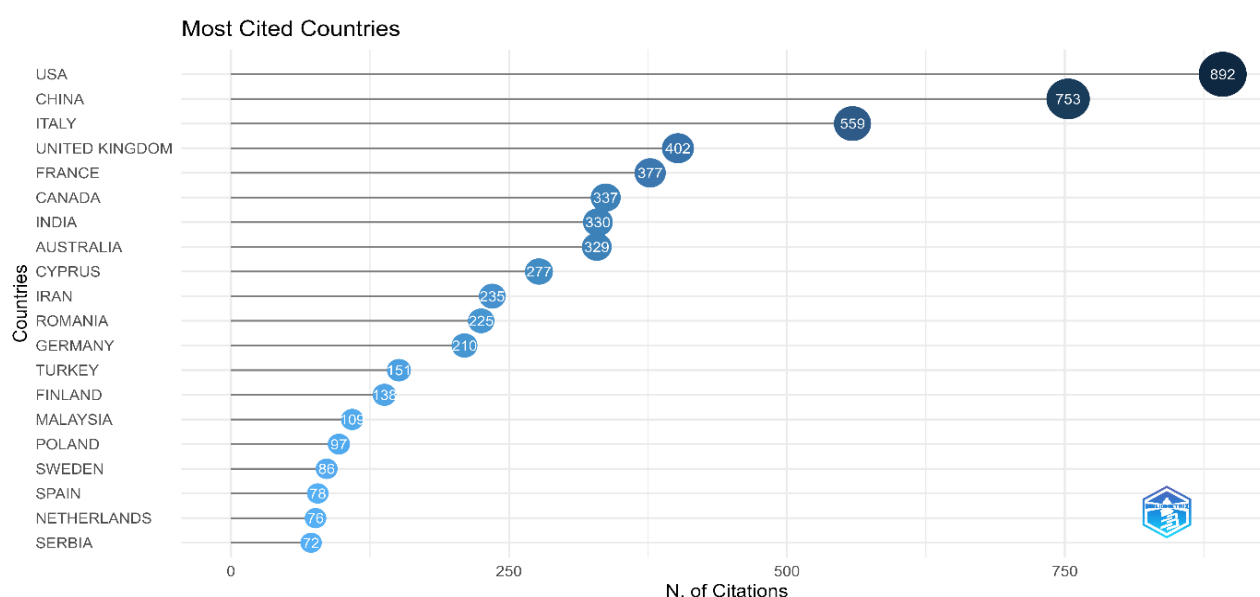


Figure 5. The top three most cited countries

Figure 5 highlights the most cited countries in research on Artificial Intelligence and Human Resource Management. The **USA** leads significantly with 892 citations, followed by **China** with 753 citations, and **Italy** with 559 citations, indicating their strong influence in the field. The **United Kingdom** and **France** also have a substantial number of citations, with 402 and 377 respectively. This demonstrates that these countries are not only generating a significant volume of research but are also producing highly impactful work that is widely cited by other researchers.

2.5.6. Most Global Cited Documents

Paper	DOI	Total Citations	TC per Year	Normalised TC
TAMBE P, 2019, CALIF MANAGE REV	10.1177/0008125619867910	275	45,83	4,90
GOLDENBERG SL, 2019, NAT REV UROL	10.1038/s41585-019-0193-3	226	37,67	4,03
SIMA V, 2020, SUSTAINABILITY-BASEL	10.3390/su12104035	207	41,40	9,23
VRONTIS D, 2022, INT J HUM RESOUR MAN	10.1080/09585192.2020.1871398	204	68,00	20,43
HUANG MH, 2019, CALIF MANAGE REV	10.1177/0008125619863436	172	28,67	3,07
DE MAURO A, 2018, INFORM PROCESS MANAG	10.1016/j.ipm.2017.05.004	156	22,29	6,24
VAN ESCH P, 2019, COMPUT HUM BEHAV	10.1016/j.chb.2018.09.009	101	16,83	1,80
KHEYBARI S, 2020, APPL MATH COMPUT	10.1016/j.amc.2019.124780	98	19,60	4,37
BENEDETTI M, 2016, APPL ENERG	10.1016/j.apenergy.2015.12.066	91	10,11	3,13
CAPUTO F, 2019, MANAGE DECIS	10.1108/MD-07-2018-0833	89	14,83	1,59

Table 3. Most Cited Publications

The most frequently cited publications are Tambe P, 2019, Calif Manage Rev, Goldenberg SL, 2019, Nat Rev Urol, Sima V, 2020, Sustainability-Basel.

2.5.7. Most Frequent Words

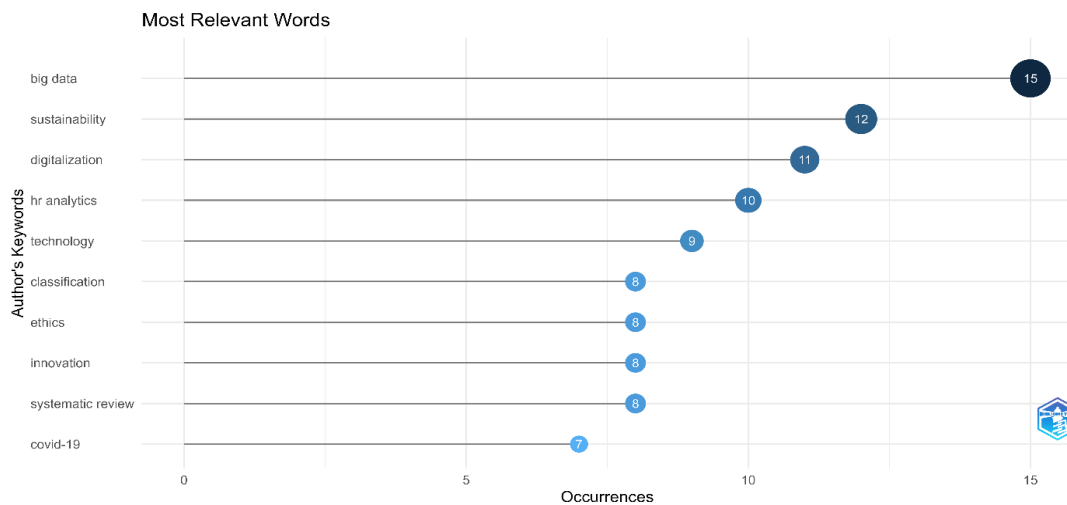


Figure 6. The most frequently used words

Terms like **"technology," "innovation,"** and **"systematic review"** emphasise the technological advancements and innovations shaping AI's role in HRM. Additionally, **"ethics"** points to concerns about the ethical implications of AI in HR, including privacy and bias. The presence of **"COVID-19"** reflects the critical role AI has played in helping HR adapt to pandemic-related challenges, such as remote work and workforce management.



Figure 7. Word Cloud of Study

These terms collectively represent the main areas where AI impacts HRM, directly supporting the study's aim of exploring AI's integration into HRM practices to enhance efficiency and decision-making.

2.5.8. Trend Topics

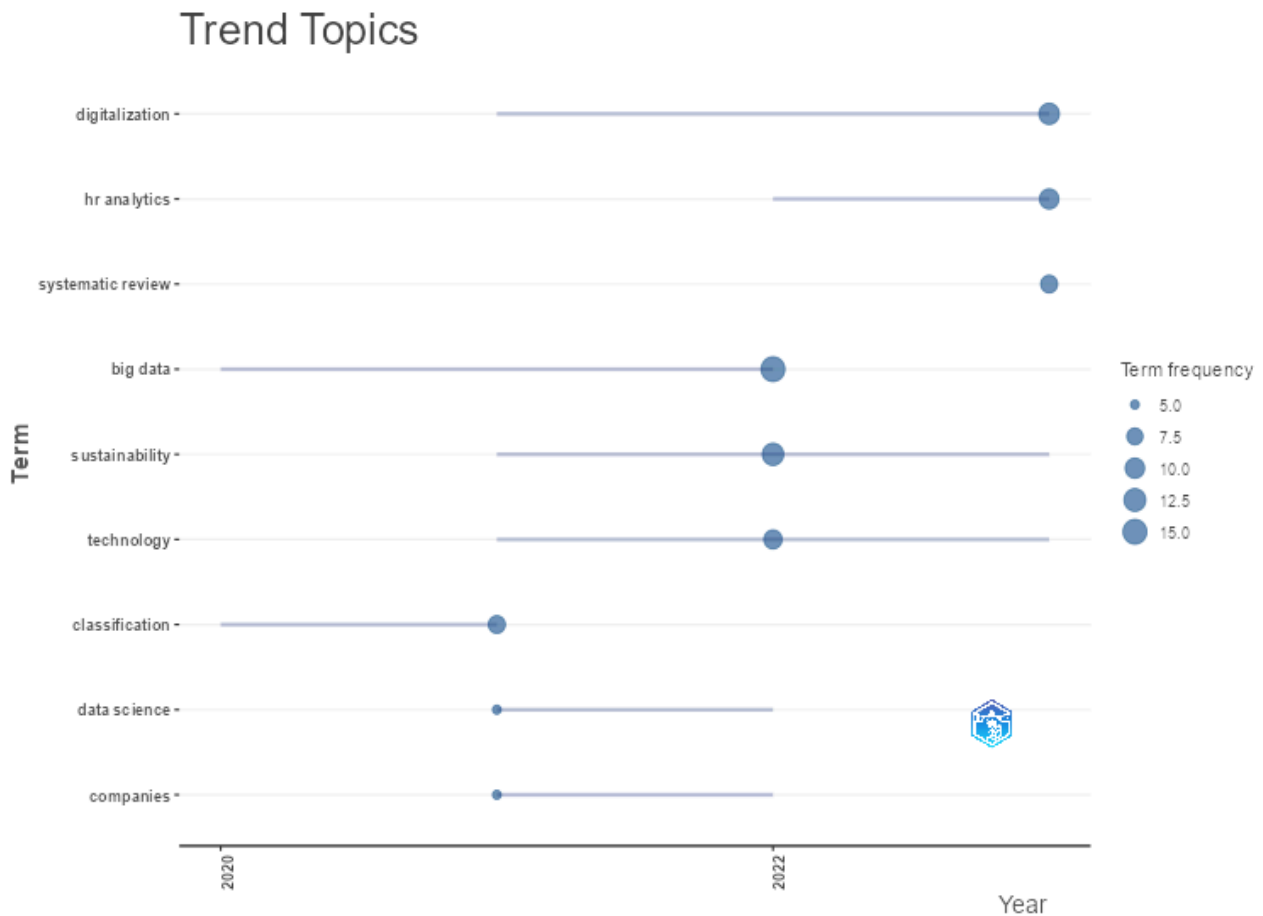


Figure 8. Trend Topics

The trending topics in the intersection of Artificial Intelligence and Human Resource Management over recent years. **Big data** and **sustainability** are dominant trends, with high frequency and consistent relevance throughout the period from 2020 to 2023, reflecting the importance of data-driven approaches and sustainable practices in HRM. **Digitalization** and **HR analytics** have also remained prominent topics, driven by the need for automation and advanced analytics in workforce management. Terms like **technology** and **systematic review** appear frequently, showcasing the technological advancements and the growing emphasis on reviewing AI's role in HRM comprehensively. Emerging topics like **classification**, **data science**, and **companies** show increasing interest in applying AI classification techniques and data science tools to improve organizational decision-making and company-wide operations. This trend analysis highlights the evolving focus areas where AI significantly impacts HR practices, particularly in the context of technological innovation and sustainable business strategies.

2.5.9. Thematic Map



Figure 9. Thematic Map

Figure 8 shows a thematic map categorising key topics in Artificial Intelligence and Human Resource Management into four quadrants based on their relevance (centrality) and development (density). In the Motor Themes quadrant (top-right), we find HR analytics, technology, and innovation, which are highly relevant and well-developed. These themes drive current advancements in HRM, particularly as AI enables sophisticated data analysis and innovative approaches to workforce management, making them critical to the field's ongoing evolution.

In the Basic Themes quadrant (bottom-right), terms like big data, sustainability, and digitalization are highly relevant but less developed. These represent foundational topics that are essential for the field but are still evolving in terms of practical implementation. As AI continues to advance, these themes will likely grow in both centrality and complexity, playing a key role in shaping sustainable and data-driven HRM practices.

In the Niche Themes quadrant (top-left), we see topics such as health care and business process management that are highly specialised but less central to the broader AI-HRM intersection. These themes are highly developed within specific sectors but may not have broad applicability across all areas of HRM. Meanwhile, in the Emerging or Declining Themes quadrant (bottom-left), topics like data mining, data science, employee engagement, and leadership have lower relevance and development, indicating either emerging interest or a declining focus in recent research. These areas may represent opportunities for future research or areas where interest has waned due to the emergence of new technologies and methodologies.

3. Conclusion and Recommendations

This study aims to describe the developments in the field with the use of artificial intelligence in human resources management by using bibliometric analysis. In the research conducted in this context, it is understood that there are developments and changes in the professions of the future thanks to the digital transformation of current developments in the field with the use of artificial intelligence in human resources management. According to the data received, we can say that there are changes in the types and classifications of professions, especially with the use of artificial intelligence. It is understood that human resources analytics has increased even more with the use of artificial intelligence. The study of Aggarwal et al., (2022), emphasised that human resources are required to deal with such data and extract valuable information from them. In addition, it is understood that they are trying to use artificial intelligence to work on how to increase the loyalty of employees to their institutions to ensure their sustainability. In addition, it is seen that for sustainability to develop in institutions, digitalization with artificial intelligence must increase further and they have started to use ChatGPT in many areas. According to studies, we can say that human resources use artificial intelligence to develop big data analytics and data mining. The study of Bohr & Memarzadeh (2020) revealed that human resources use artificial intelligence in developing big data analytics and data mining. It is understood that the use of artificial intelligence has increased even more due to the need to benefit more from the great development of technology in human resources, especially during the pandemic period. We can say that they benefit from artificial intelligence in human resources leadership management. In addition, it can be said according to the results of the data obtained that the development of information management has increased with the use of artificial intelligence within the scope of human resources management. These results are parallel to the research results of (Dwivedi et al., 2020). According to the results of the data obtained, we can say that algorithmic management, talent management, and risk management, especially in artificial human resources management, have been taken to even higher levels with the use of artificial intelligence. In addition, it can be said in light of the data obtained that there are decreases in turnover and employee attrition with the use of artificial intelligence in human resources management. The study of Pal (2022) research states that there are many benefits to the use of artificial intelligence; among these, there are reductions in job turnover and rates, in line with the research findings. In today's businesses, especially to respond more quickly to increasing consumer expectations, there is an increasing trend towards finding ways to shorten the time to market products, increase flexibility, and find ways to mass produce, thanks to Industrial Revolution 4.0, defined as the Internet of Things, with the use of artificial intelligence within the scope of human resources management (Moral-Muñoz et al., 2020).

Conflict of interest

The authors declare that they have no conflict of interest.

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