

## Mapping the Future: AI and HRM Insights from Bibliometric Data

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### ABSTRACT:

The study explores the intellectual framework of Artificial and Human Resource Management in business, management, and accounting, using the Scopus database. Bibliographic analysis, a rigorous and extensive method for examining scientific data, was employed in the study.

The structured process involved five steps: source selection, search criteria, research refinement, exporting a csv file, and analysing and discussing results. To find relationships, the analysis employed bibliometric mapping, and to understand their structure, performance evaluation was used. A sample of 257 papers from Scopus was analysed to identify relevant research trends. Using Bibliometrix software and the Biblioshiny tool, the research addressed four specific questions to assess documents retrieved from Scopus. According to the study, the three most prominent authors in AI-HRM are 'Malik A', 'Budhwar P, Ren S, and Nawaz N'. In terms of relevant affiliations, Aston University top the list followed by Kingdom University and Neoma Business School. Human Resource Management Review, and the International Journal of Human Resource Management and Technology in Society Journals are highly researched in the area of AI and HRM. The most contributing countries to this research field are the USA, China, and India. Human Resource Management and Machine Learning were the most used Keywords by Authors. Industry 4.0, human resource analytics, and business intelligence are some of the emerging issues. The findings indicate that AI applications in HRM represent a rapidly growing area of research, marked by consistent growth and promising prospects.

**Keywords:** Artificial Intelligence, Human Resource Management, Biblioshiny, Bibliometric Analysis, HR decisions

### Introduction:

Scholars increasingly recognize the significant impact of analytics and data-driven decision-making on the business sector, especially with the emergence of advanced technologies such as artificial intelligence during the "Industry 4.0" or "Fourth Industrial Revolution." (Kong et al., 2021). The emergence of disruptive technologies like AI, ML, Data Mining, and IoT are playing pivotal roles in the area of HRM research. Additionally, the advancement of information and communication technologies has enabled AI to significantly

impact different parts of society, becoming a crucial element of change in various aspects of life in this era (Pillai & Sivathanu, 2020; Aloqaily & Rawash, 2022). In contrast to other corporate departments such as marketing and finance, HRM has not yet been significantly impacted by data-driven decision-making (Boudreau & Ramstad, 2005). The impact of AI and HRM has been observed to increase productivity, decrease bias in selection processes, increase candidate pools, improve recruiting efficiency, and promote employee development and retention in the Global South (Kshetri, 2021). In the current context, Generative Artificial Intelligence presents a strategic framework for integrating Human Resource Management. This enhances efficiency, innovation, competitive advantage, and bridges HRM-GAI adoption (Chowdhury et al., 2024). In the hyper-competitive environment, integrating AI with HRM can become a crucial strategy for achieving organizational success (Vrontis et al., 2021). Integrating AI into HRM helps managers enhance intergenerational relationships, attract top talent, and predict candidate performance which are crucial HR functions (Kshetri, 2021). AI integration into HR functions will have a lasting impact on companies requiring HR professionals to prepare by understanding its applications across various roles (Qamar et al., 2021). By integrating and effectively using analytics in its decision-making processes, the HR function has the potential to become a valuable strategic partner in establishing a lasting competitive advantage (Tiwari et al., 2023). So, the implementation of AI Technology will play a crucial role in enhancing the efficiency of HR practices in the coming years (Priksat et al., 2023). Particularly in areas like career management, remuneration, and mobility, business leaders are placing a high priority on transforming HR departments using artificial intelligence tools like artificial neural networks and intelligent decision systems (Johnson et al., 2023). Academic research into AI-enabled HRM has expanded rapidly, linking HRM and information management studies. Despite its origins in HRM literature, the field is relatively recent in exploring AI's diverse applications within organizations. Consequently, while AI is recognized as a powerful tool in HRM, there remains a comparatively limited body of academic research on the topic (Pan et al., 2022). Studying AI's impact on HRM significantly aids organizational professionals and researchers in enhancing their understanding to develop effective HRM strategies. However, there is still a lack of studies examining the connection between AI and the field of HRM, highlighting the necessity for more research to gain a more comprehensive understanding (Votto et al., 2021). The use of AI technology to enhance productivity in Human Resource Management has generated considerable interest in advancing this operational domain. While traditional narrative literature reviews contribute significantly, they often fall short of providing a thorough overview of specific fields. Hence, there is growing interest in science mapping, employing bibliometric methods to visually depict and comprehend specific domains more comprehensively (Abraham et al., 2019). Therefore, this paper seeks to analyse the use of AI in HRM through bibliometric Analysis. The researchers undertook this study with these guiding questions.

RQ1: What is the trend of AI-HRM research in the present scenario?

RQ2: Which are the most productive authors and Research Institutions?

RQ3: Which are the most Emergent Journals in context to publication in the study duration?

RQ4: Which countries have the highest number of published research papers in AI and HRM?

## Literature Review

The primary objective of artificial intelligence within an organization is to enhance overall effectiveness and efficiency by simplifying various HR tasks and management procedures and ensuring they are more accurate and proactive (Palos-Sánchez et al., 2022). AI significantly enhances employee training and development by storing each employee's electronic resume, providing the organization with a comprehensive digital roster of its workforce. This capability aids in identifying skill gaps and developing suitable training programs (Budhwar et al., 2022). Organizations' approaches to hiring, managing, and engaging their personnel are changing as a result of the incorporation of artificial intelligence into HRM procedures. By analysing accurate data and behavioural trends, machines can now make choices with more accuracy than humans, freeing up HR experts to focus on more strategic duties (Tewari & Pant, 2020). Although the integration of AI into human resources is still uncertain, it presents an opportunity for HR to advance in digital transformation (Rathi, 2018). In the area of HRM the role of AI has become a crucial and effective tool in management decisions (Kiran et al., 2023). Artificial intelligence, for instance, now handles vital aspects of human interaction, simplifying several crucial HRM tasks like recruiting, onboarding, interviewing, screening, hiring, aligning HR initiatives, and performance monitoring. According to Qamar et al., (2021) and Giraud et al., (2022) proficiently

employing this approach leads to notable improvements and increased success in the domain of skilled and highly sought-after human resource management, as well as substantial potential to enhance caregiving, cut expenses, and efficiently oversee human resources in the business sector. Many businesses utilize AI for candidate interviews and recruiting; however, the strategic implementation of AI in this area still requires significant improvement (Kaur et al., 2021). When comparing traditional recruitment approaches with AI integration in human resource management, it becomes evident that HR experts view artificial intelligence as a disruptive technology capable of delivering a large pool of qualified candidates and accurate rankings. AI also enhances candidate selection by providing critical insights (Bulut & Dinler, 2023). Consequently, firms have increasingly turned to artificial intelligence in recent years to maximize and optimize human resource management tasks due to noticeable limitations in traditional recruitment tactics (Vishwakarma & Singh, 2023). Hossin et al., (2021) researched HRM practices in Bangladesh, focusing on the significant outcomes of AI such as enhancing employee performance, talent development, and Employee retention, Employee Engagement. They also highlighted challenges including technological readiness and organizational resistance, and advocated for the timely adoption of strategic organizational advancement. Johnson et al., (2020) examine how hospitality and tourism sectors benefit from e-HRM and AI, enhancing recruitment, selection efficiency, and employee retention.

### 3. Data and Methodology

Bibliometric analysis is a highly effective quantitative method for reviewing a broad range of articles in the literature (Donthu et al., 2021). The aim of conducting a bibliometric literature review analysis is to impartially and systematically gather research findings related to a specific study. Unlike traditional systematic or narrative reviews, bibliometric analysis employs statistical techniques to identify differences in how topics are explored. This method contributes to the growth and development of the field by identifying new research directions (Bhandal et al., 2022; Mishra et al., 2016). The bibliometric analysis of this study was conducted by using the database of Scopus, which is one of the top citation databases worldwide. It was selected as the primary source of descriptive and analytical bibliometric information. Various tools exist for bibliometric analysis, each possessing distinct characteristics and limitations. R Studio was the programming tool used for the bibliometric analysis. For in-depth bibliometric data analysis, Bibliometrix, a library included in the R statistical program (Aria & Cuccurullo, 2017; Team, 2013), was employed. Biblioshiny created a user-friendly graphical interface for Bibliometrix (Biblioshiny-Bibliometrix for No Coders, Bibliometrix, 2019). The structure and Framework of this research is influenced by the Methodologies adapted by (Hiebl, 2023). The overview of the methodology is given in Figure 1.

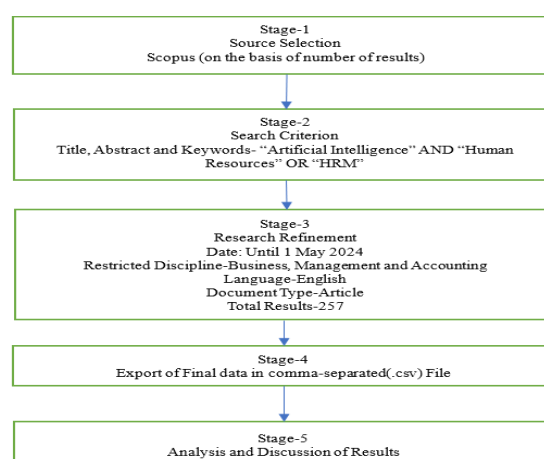


Figure 1: Overview of Methodology

Sources: Adapted from the Hiebl (2023)

#### 4.0 Result and Analysis

Table-1. Summary of Bibliographic Information  
Descriptive Analysis

Description	Results
Timespan	2018:2024
Sources (Journals, Books, etc)	151
Documents	257
Annual Growth Rate %	61.38
Document Average Age	1.8
Average citations per doc	24.52
Keywords Plus (ID)	736
Author's Keywords (DE)	933
Authors	746
Authors of single-authored docs	38
Single-authored docs	39
International co-authorships %	35.02
Co-Authors per Doc	3.21

Source: Author's Own Compilation

The Table-1 presents the descriptive results of the documents under study. A total of 257 documents are taken for bibliometric analysis, whereas 151 sources are used to publish these articles within 7 years. A total of 746 authors including 38 single authors have written the articles. However, a notable average of 24.52 citations per document was observed, highlighting the significant attention academic scholars have given to the field of Artificial Intelligence and Human resource management. Additionally, the data shows that 35.02% of these scholarly documents involved cross-border collaboration, illustrating the global cooperation among authors to scientifically underscore the importance of the AI and HRM research domain.

#### 4.1 Performance analysis

Figure 2 represents the information regarding the trend of yearly research paper publications in Artificial Intelligence and Human Resource Management. We can observe that the annual publication of articles showed a consistent upward trend over the period under study. In 2018, only three articles were published, but this increased significantly to 17 in 2019 and further rose to 21 in 2020. The following year, there was a notable surge to 33 articles, which continued to climb to 47 in 2022 and then rose considerably to reach 83 in 2023. However, there was a minor decline in publications for the year 2024 with only 53 articles compared to the previous year. The annual growth rate of scientific Production is 61.38 %. As the year 2024 has not been completed, the count may improve by the end of the year.

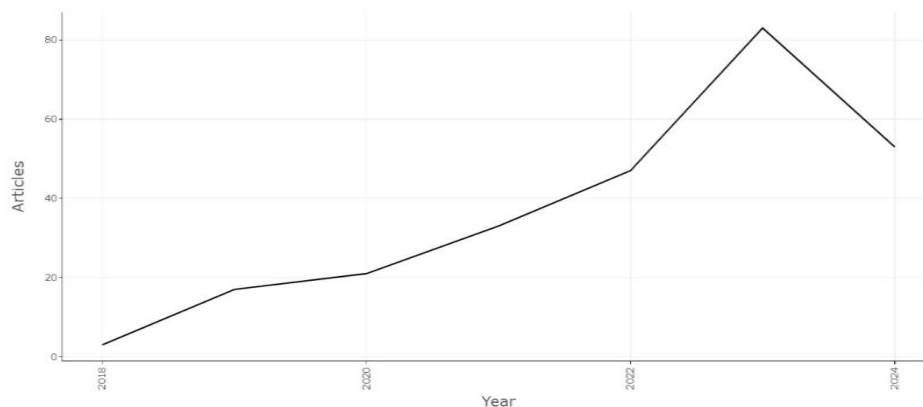


Figure-2: Annual Scientific Production

Source: Generated Using Bibliometrix R Package

#### 4.2 Top Journals, Bradford's Law (sources), and source Impact Top Journals

Figure 2 illustrates the top journals in Artificial Intelligence and Human Resource Management, with a focus on 'Human Resource Management Review', 'International Journal of Human Resource Management', 'Technology in Society', 'Organizational Dynamics', and 'Technological Forecasting and Social Change'. These journals are noted for publishing 12, 7, 7, 6, and 6 articles respectively.

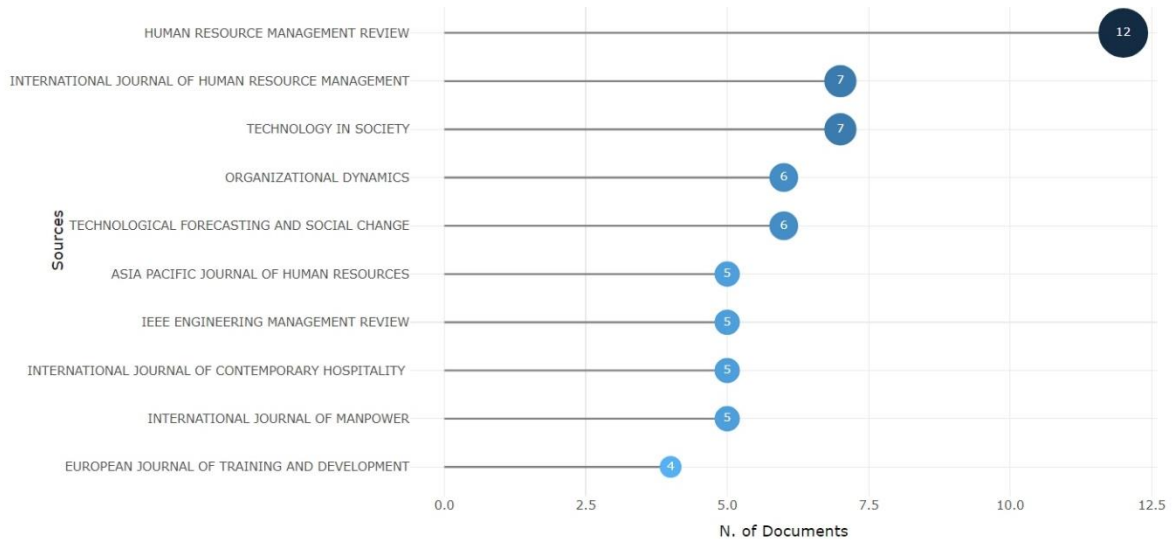


Fig-3: Most Relevant Sources

Source: Generated Using Bibliometrix R Package

#### Bradford's Law Sources

When looking for reference in scientific journals, Bradford's law evaluates the diminishing returns (Bradford, 1976). Journals in this field are typically divided into three zones: a core comprising a few journals, a second zone with more journals, and a third zone containing the majority of journals. The distribution follows a ratio of 1:  $n:n^2$  for the number of journals in each zone. The depiction based on the source rank per number of articles published under that source, the journal with the highest rank is considered as 'Core Source'. The rank here signifies the relevance of the work published by Journals, the focus here lies on quality rather than quantity from Figure 5 it can be said that 'Human Resource Management Review', 'International Journal of Human Resource Management', 'Technology in Society', 'Organizational Dynamics', 'Technological Forecasting and Social Change' record the highest source rank among other journals with 12, 7, 7, 6, 6 articles which were limited in number but are relevant and Published in the period of 2018 till 2024.

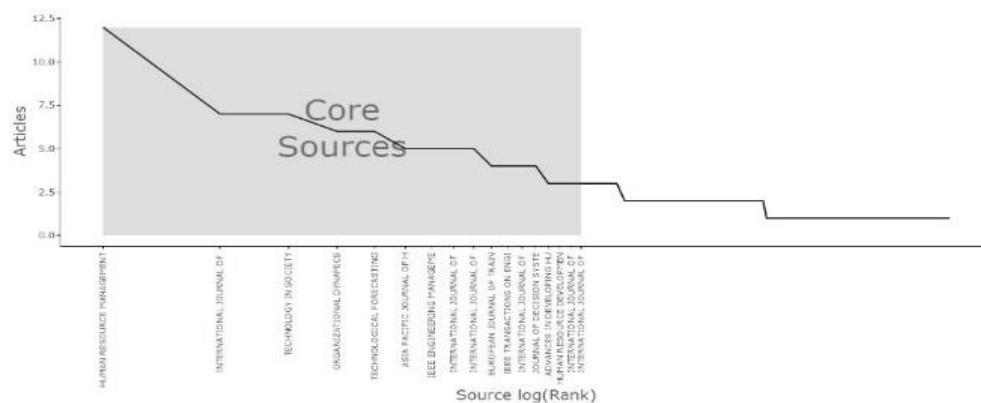


Fig-4: Bradford's Law

Source: Generated Using Bibliometrix R Package

Source Impact

Table:2 Sources Local Impact

Journals	<u>h_index</u>	<u>g_index</u>	<u>m_index</u>	TC	NP	<u>PY_start</u>
HUMAN RESOURCE MANAGEMENT REVIEW	11	12	2.75	571	12	2021
INTERNATIONAL JOURNAL OF HUMAN RESOURCE MANAGEMENT	6	7	2	519	7	2022
INTERNATIONAL JOURNAL OF MANPOWER	5	5	1.667	209	5	2022
ASIA PACIFIC JOURNAL OF HUMAN RESOURCES	4	5	1	59	5	2021
INTERNATIONAL JOURNAL OF CONTEMPORARY HOSPITALITY MANAGEMENT	4	5	1	206	5	2021
TECHNOLOGY IN SOCIETY	4	7	1	138	7	2021
ADVANCES IN DEVELOPING HUMAN RESOURCES	3	3	0.6	29	3	2020
IEEE ENGINEERING MANAGEMENT REVIEW	3	5	0.5	29	5	2019
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	3	4	1	35	4	2022
INTERNATIONAL JOURNAL OF SCIENTIFIC AND TECHNOLOGY RESEARCH	3	3	0.6	103	3	2020

Source: Author's Own Analysis

The Source Impact Factor quantifies how frequently articles within a journal are cited within a specific year (Oyewola & Dada, 2022), serving as a metric to assess a journal's significance or classification. According to Tony and Desai (2020), the 'h-index,' also referred to as the Hirsch index, similarly determines the maximum value of 'n,' where 'n' is the number of journals that have published 'n' papers and each cited 'n' times. Figure 6 presents the top 10 scholarly journals in this field based on their h-index. This metric evaluates the reflective quality of publications based on their citation productivity. The influence or quality of a journal cannot be adequately captured solely by the number of articles or citations it accrues. Instead, its h-index provides a more nuanced measure. According to Table 2, Human Resource Management Review holds an h-index of 11 and a g-index of 12, followed by the International Journal of Human Resource Management with an h-index of 6 and a g-index of 7. In terms of the M-index, Human Resource Management Review boasts an impact factor of 2.750, indicating that its published articles receive more citations than those in other journals.

#### 4.3 Major Contributor (Author, Documents, Countries and Affiliations)

##### Most Relevant Authors

Bibliometric analysis is crucial for identifying key authors in specific fields of study. According to Figure 4, which illustrates the prominent authors in Artificial Intelligence and Human Resource Management, 'Malik A' and 'Budhwar P' have emerged as the most prolific contributors. They have published the highest number of articles, with Malik A. contributing 6 and Budhwar P. contributing 5 articles in core sources related to this field, establishing them as the leading experts.

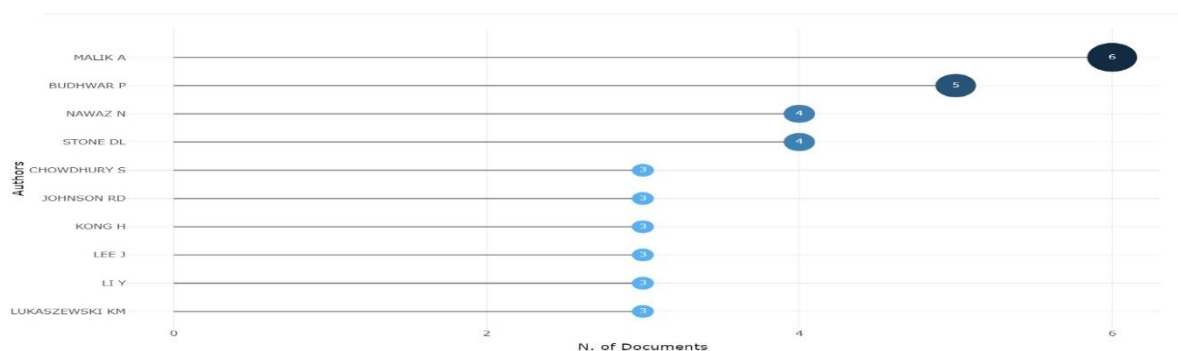


Fig 5: Most Relevant Authors

Source: Generated Using Bibilometrix R Package



**Most Relevant Documents**

The top ten documents cited internationally which are shown in table 3. There are four columns in it. Article Science, DOI, Total Citations, Annual Total Citations, Normalized TC. Huang MH, the author, came in first place with 1309 citations from the Journal of Service Research. Tambe P. from the Journal of California Management Review followed with 401 total citations, Vrontis D. from the International Journal of Human Resource Management, with 294 total citations, and Huang MH from the Journal of California Management Review and 401 total citations. The top four articles' authors demonstrated their fundamental contributions to the field.

Table: 3 Most Relevant Documents

Sl.No	Scientific Article	DOI	Total Citations	TC per Year	Normalized TC
1	HUANG MH, 2018, J SERV RES	10.1177/1094670517752459	1309	187.00	2.84
2	TAMBE P, 2019, CALIF MANAGE REV	10.1177/0008125619867910	401	66.83	6.37
3	VRONTIS D, 2022, INT J HUM RESOUR MANAGE	10.1080/09585192.2020.1871398	294	98.00	10.74
4	HUANG MH, 2019, CALIF MANAGE REV	10.1177/0008125619863436	225	37.50	3.57
5	JAVAID M, 2020, J IND INTEGR MANAG	10.1142/S2424862220500141	133	26.60	4.07
6	CHOWDHURY S, 2023, HUM RESOUR MANAGE REV	10.1016/j.hrmr.2022.100899	124	62.00	11.76
7	PILLAI R, 2020, BENCHMARKING	10.1108/BIJ-04-2020-0186	123	24.60	3.77
8	CAPUTO F, 2019, MANAGE DECIS	10.1108/MD-07-2018-0833	105	17.50	1.67
9	PESSACH D, 2020, DECIS SUPPORT SYSTEM	10.1016/j.dss.2020.113290	99	19.80	3.03
10	MALIK N, 2022, INT J MANPOW	10.1108/IJM-03-2021-0173	96	32.00	3.51

Source: Author's Own Analysis

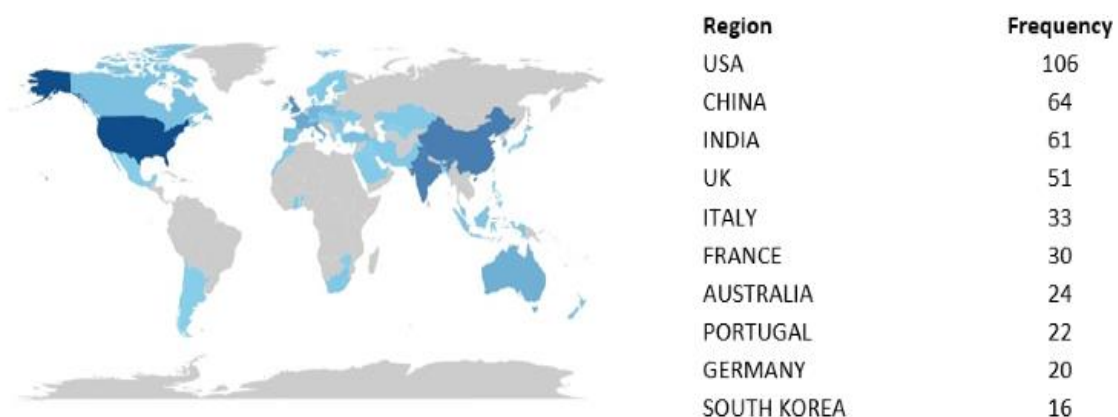
**Country Scientific Production**

Figure 6: Country's Scientific Production

Source: Generated Using Bibliometrix R Package

The field of AI and HRM literature has experienced significant global growth, with the USA, China, India, the UK, Italy, and France leading in terms of the number of publications. These countries are major contributors

to the expansion of research in the area of AI & HRM. According to Figure 5, which illustrates the Country scientific production from 2018 to 2024 in the 'Core Journals' of the field, the USA published 106 documents, China published 64 documents, and India published 61 documents, making them the top contributors in terms of the number of major articles published during this period.

### Most Relevant Affiliations

The Figure 6 represents the 10 most relevant affiliations who contributed to the AI and Human Resource Management Study. In terms of relevant affiliations "Aston University" top the list contributing 7 articles followed by "Kingdom University" contributing 5 articles to the field of study,"Neoma Business School contributing 5 articles,University of Johannesburg with 5 articles,Islamic Azad University with 4 articles. These universities have contributed the most in terms of total scientific production.

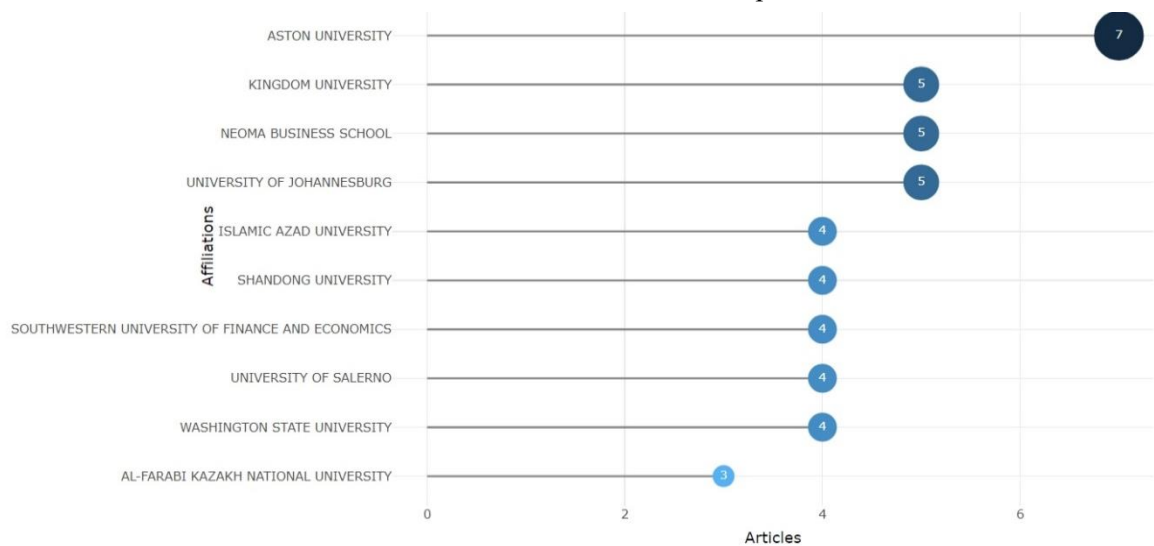


Figure 7: Most Relevant Affiliations

Source: Generated Using Bibliometrix R Package

### 4.4 Trend Topics

Figure 7 illustrates trend topics from 2020 to 2024, defining the diversified work conducted in the field. In 2020, there were negligible research trends, while 2021 started recognizing the growing curiosity of researchers in this arena. Following that, 'Human Resource', 'Data Analytics', and 'Personnel' were the least trending topics with a term frequency of 5. 'Knowledge Management' and 'Employment' had a term frequency of 7 in the AI & HRM literature. 'Information Management' had a term frequency of 11, depicting less interest among researchers. 'Decision Making' had a term frequency of 15, indicating good research trends in 2023. The most trending topic was 'Artificial Intelligence' with the highest term frequency of 55 in 2023, followed by 'Human Resource Management' with a term frequency of 54 in the same year.

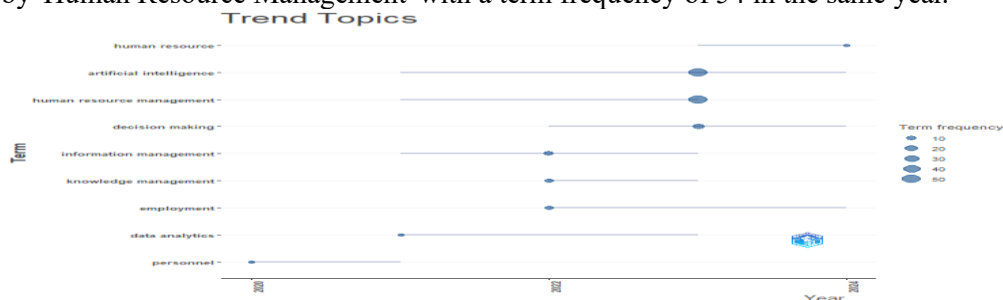


Figure 8: Trend Topics

Source: Generated Using Bibliometrix R Package



#### 4.5 Science Mapping

Exploring the relationships between various research components is known as "science mapping" (Baker, Kumar, and Pandey, 2020). The structural relationships and intellectual exchange between these elements are the primary focus of this investigation. Citation analysis, co-citation analysis, bibliographic coupling, co-word analysis, and co-authorship analysis are some of the strategies employed in science mapping. These techniques become indispensable for exposing the intellectual structure and bibliometric framework of the study field when paired with network analysis (Tunger and Eulerich, 2018).

#### Three Fields Plot

The relationships between sources, countries, affiliations, keywords, prominent authors, cited sources, and author keywords may be visually evaluated by using the three-field plot feature of Biblioshiny software. Regarding countries, sources, well-known writers, and author keywords, the height of the rectangles shows the correlations between these elements. Denser relationships between the various components are represented by larger rectangles in the diagram (Raman Kumar et al., 2021). The Sankey Plot is Organised with the countries on the left, the authors in the centre, and the keywords on the right were chosen for analysis. The figure explains how different authors from various countries have worked on numerous aspects of Artificial Intelligence and Human Resource Management using different keywords 'Artificial Intelligence', 'Human Resource Management', and 'Machine Learning' were the most used Keywords by Authors Malika A', 'Budhwar P', 'Stone dl', 'Chowdhury S' and 'Del Giudice M'. Based on these keywords, major contributions in the research of Artificial Intelligence and Human Resource Management are by the United Kingdom, USA, China, and France along with their researchers publishing relevant articles in this area.

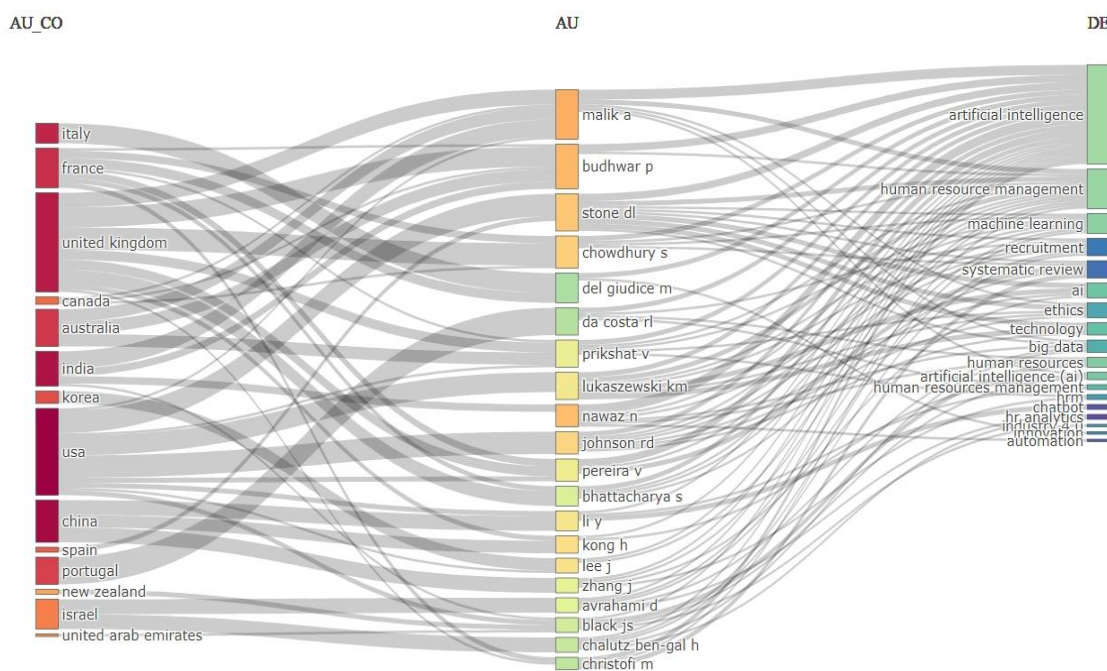


Fig-9:

#### Three Field Plot

Source: Generated Using Bibliometrix R-Package

#### 4.6 Conceptual Structure

##### Co-Occurrence Network

Conceptual structures describe the co-occurrence of certain items, such as keywords or index terms, found in an article's feature elements. These elements include organizations, titles, authors, or keywords within the literature. This involves a quantitative analysis of the co-occurrence phenomenon to uncover the content significance of the evidence. Keywords can highlight the scope of exploration when examining and guiding research areas of interest and development trends.

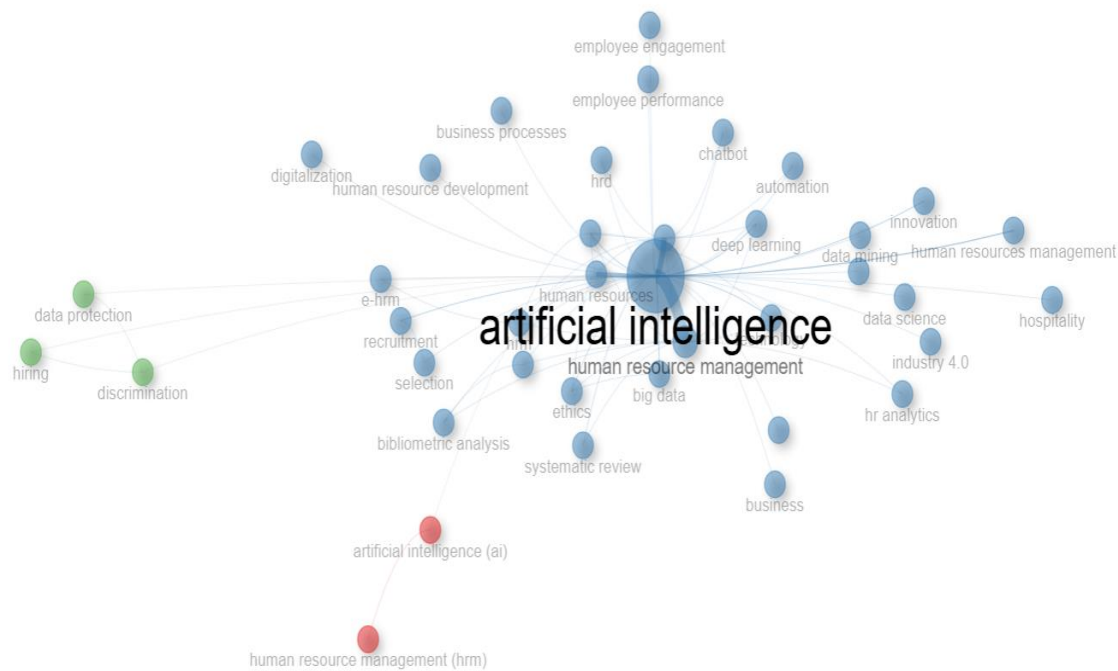


Fig-10: Co-occurrence Network  
Source: Generated Using Bibliometrix R-Package

Figure 9 results in the network representing the occurrences of the most frequently used keywords in the AI & HRM literature. The output generated by the software for author keywords co-occurrence divides the total keywords into three clusters. The most occurred keyword is 'Artificial Intelligence and Human Resource Management' falling in cluster 1 (Blue colored). Cluster 1 represents 34 nodes showcasing links with other used keywords falling in the same cluster namely 'e-hrm', 'hr analytics', 'employee performance', 'employee engagement', 'selection', 'recruitment', 'automation', 'deep learning', 'hrd', 'ethics' and so on. Cluster 2 (Red colored) includes 2 nodes representing links with each other namely 'artificial intelligence' and 'human resource management'. Cluster 3 (Green colored) has 3 nodes showcasing link with one another, 'data protection', 'discrimination', and 'hiring'.

#### 4.7 Thematic Map

AI and HRM literature have been analysed thematically over the years for better understanding. These themes are categorized into four groups: Niche themes, Motor themes, Emerging or declining themes, and Basic themes, based on their density and centrality. Niche themes identify the specific segments where AI & HRM research is most prominent, while Motor themes cover the commonly explored areas in the field. Emerging or declining themes highlight areas of AI & HRM that are either gaining or losing researchers' interest. Basic themes represent the most fundamental and essential aspects of the literature on Artificial Intelligence and Human Resource Management.

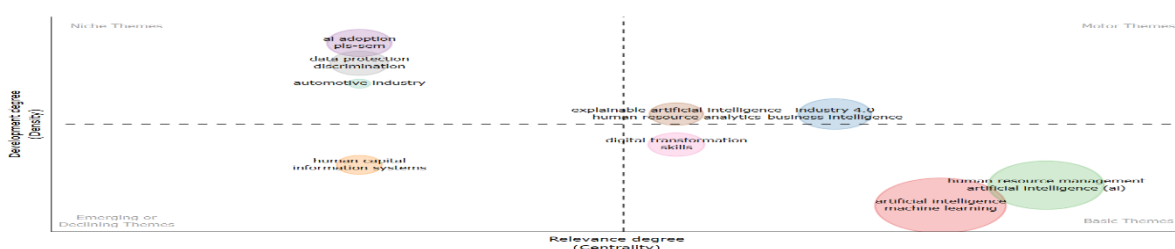


Fig-11: Thematic Map  
Source: Generated Using Bibliometrix R-Package

As shown in Figure 10, Niche themes include studies on 'Ai adoption and pls-sem', 'data protection', 'discrimination', and 'automotive industry'. Motor themes include 'explainable artificial intelligence', 'Industry 4.0', 'human resource analytics', and 'business intelligence'. Emerging or declining themes include studies on 'human capital' and 'information systems. while basic themes include 'digital transformation skills', 'artificial intelligence', 'machine learning', 'human resource management, and 'artificial intelligence'.

#### 4.8 Intellectual Structure

##### Co-citation Network

When two authors or sources are incorporated in a single publication's reference list (Tunger and Eulerich 2018), it forms a network. Hence, Co-citation analysis is a technique used to evaluate the comparative relationships among different publications that focus on a shared topic, model, method, or experimental area (Gmur, 2003). This analysis helps to identify the main ideas presented in the paper. We examined clusters from the Co-citation network and conducted a content analysis to understand the main concepts related to 'AI & HRM'. In Figure 14, three clusters are depicted with various nodes connected, forming a co-citation network where multiple authors have been cited together in the studies. The most co-cited authors from cluster 1 (Blue colored) include Upadhyay a.k .2018, Lawler j.j.1996, Angrave d.2016, Bondaroukt. 2017, and Vaneschp. 2019. The second most co-cited authors, belonging to cluster 2 (Red colored), are Tambe p.2019, Haenlein m.2019, Jarrahi m.h.2018, Frey c.b.2017, Huang m.h.2018, Broughamd, Pillai r, Glikson e.2020, Chowdhury.2023, and Raischs.2021.

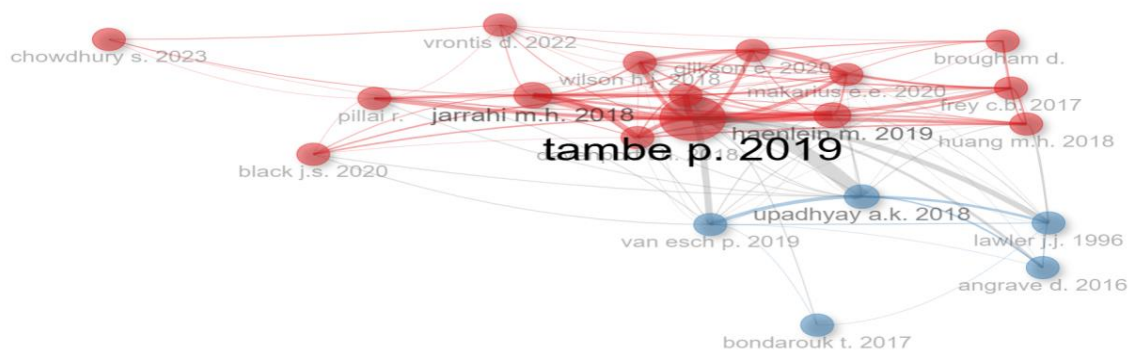


Fig-12: Co-citation Network

Source: Generated Using Bibliometrix R-Package

#### 4.9 Social Structure

In Biblioshiny software social structure illustrates the collaboration networks among Authors, Institutions, and Countries. This social structure helps create a collaboration network by identifying the joint participation of various entities within the same research domain.

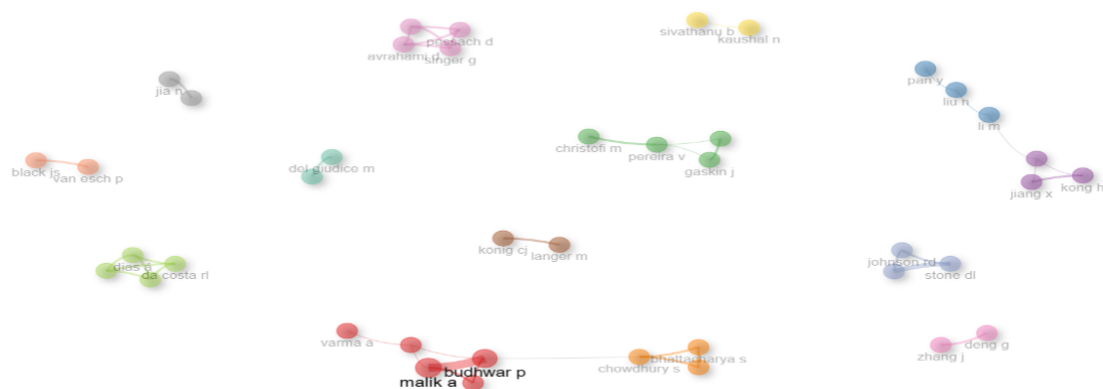


Fig-13: Author Collaboration Network

Source: Generated Using Bibliometrix R-Package

The major author's collaboration is found in three different clusters, cluster 1 (Red) where malik a, budhwar p, prikshat v, Srikanth nr, Varma a. cluster 2 (Blue) li m, Liu n, pan y collaborated, and lastly, cluster 3 (Green) where pereira v, christofi m, gaskin j, ogbeibu s collaborated to enrich the AI and HRM literature over time from 2018-2024.

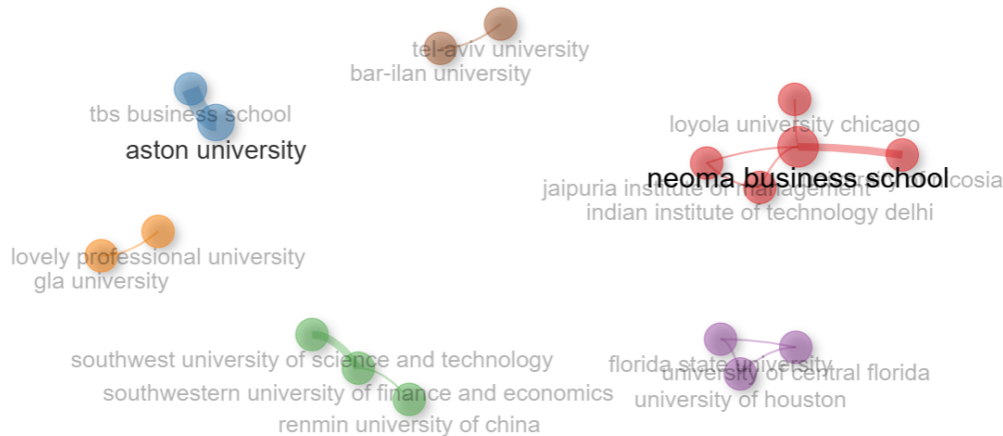


Fig-14: Institution Collaboration Network

Source: Generated Using Bibliometrix R-Package

Figure 13 illustrates three primary clusters within the institutional collaboration network, highlighting collaborations in AI & HRM research. Cluster 1 (Red) displays a network of collaboration involving Neoma Business School, University of Nicosia, Indian Institute of Technology Delhi, Jaipuria Institute of Management, and Loyola University Chicago. Cluster 2 (Blue) represents a collaborative network between Aston University and TBS Business School, while cluster 3 (Green) depicts collaboration among Southwest University of Science and Technology, Southwestern University of Finance and Economics, and Renmin University of China.

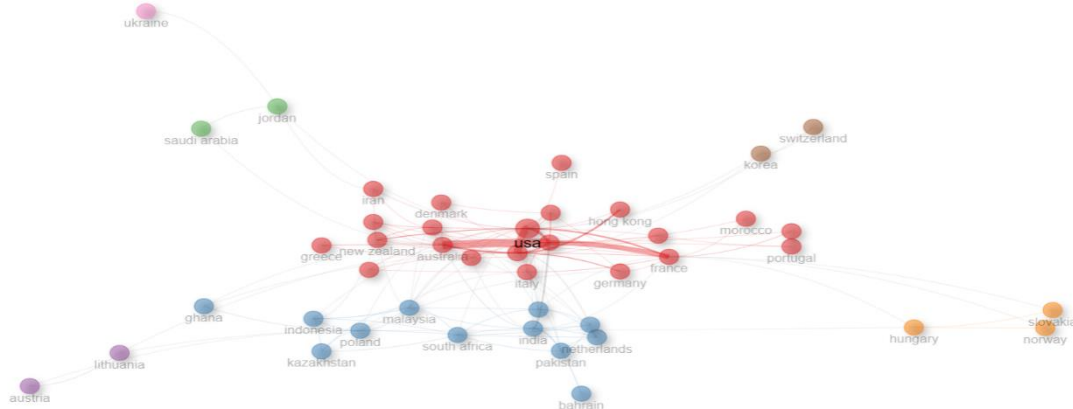


Fig-15: Country Collaboration Network

Source: Generated Using Bibliometrix R-Package

The international collaboration network indicates the collective contribution of multiple countries to research in the field. Figure 14 illustrates three main clusters. Cluster 1 (Red) indicates collaboration among the USA, China, the United Kingdom, Germany, Italy, Australia, France, Portugal, Canada, Spain, Turkey, New Zealand, Cyprus, Finland, Hong Kong, Iran, Morocco, Sweden, Greece, Denmark, Bulgaria, and the Czech Republic. Cluster 2 (Blue) represents collaboration among India, Poland, Indonesia, Malaysia, the United Arab Emirates, the Netherlands, Pakistan, Kazakhstan, Bahrain, South Africa, Ireland, and Ghana. Cluster 3 (Green) represents Jordan and Saudi Arabia. These countries have been the primary contributors to the most significant publications in the literature on AI & HRM.

## 5. Discussion

Extensive studies have been conducted to monitor the advancements in artificial intelligence and human resource management from 2018 to 2024. This research seeks to enhance theoretical knowledge by performing a thorough bibliometric review and examining papers published in this field during the specified years. This investigation found a significant increase in scholarly publications in this field because of the growing interest. As a result, there is a rise in research output for more studies in AI-HRM. The discussion of important contributions by previous scholars has been carefully reviewed over the past seven years. The years 2019, 2020, 2021, 2022, and 2023 are crucial for publishing papers on Artificial Intelligence and Human Resource Management, according to our analysis. The study highlights notable authors and esteemed institutions actively involved in AI-HRM research. Furthermore, it offers a comprehensive overview of studies on the practice of artificial intelligence in human resource management through the analysis of co-citation networks, co-authorship, and country collaboration. Our study aims to guide scholars interested in AI-HRM by providing important information from relevant publications, including details about prominent authors and organizations in this field. Lastly, a thematic map visually represents the main themes and trends in scholarly research within the area of Artificial Intelligence and Human Resource Management.

## 6. Conclusion and Future Directions

This study analyses contributing authors, trends, and countries in the literature using bibliometric analysis to identify areas that need attention. The findings show a rising trend in "AI-HRM" research since 2018. The three most prominent authors in this field are 'Malik A', 'Budhwar P, Ren S, and Nawaz N'. The most contributing countries to this research field are the USA, China, and India. In terms of relevant affiliations, Aston University top the list followed by Kingdom University and Neoma Business School. The top most relevant Journals in the field of Artificial Intelligence and Human Resource Management are Human Resource Management Review, International Journal of Human Resource Management, and Technology in Society. Additionally, the study identifies important research clusters, science mapping, thematic map, conceptual structures, intellectual structures, and social structures within this research domain. The study acknowledges the limitations of using only the Scopus database and suggests the inclusion of Web of Science and Google Scholar for comprehensive insights in future research. The findings of this study can help researchers in AI and HRM to enhance their comprehension of research within this field.

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