



Decoding AI's Impact on HRM Communication: A Global Bibliometric Analysis

Manju Dhillon

Assistant Professor, Maharaja Surajmal Institute, Janakpuri, New Delhi

Dr. Arun Mittal*

Assistant Professor, Department of Management Studies
Birla Institute of Technology, Mesra Ranchi (Off Campus NOIDA)
Email: arunmittal1985@gmail.com,

ABSTRACT

In the digital era, the incorporation of “Artificial Intelligence” (AI) into “Human Resource Management” (HRM) and communication has revolutionized business communication and interaction with employees. Though the literature on AI in HRM and communication has received attention in the last few years, it is quite fragmented with only a few studies that examine their evolution in an integrated manner. To fill this gap in research, the current study uses bibliometric analysis of literature for almost fifteen years (2011-2025). The analysis is based on the database comprising 489 publications indexed in Scopus. The study uncovers leading authors, influential journals, contributing countries, and key thematic clusters. Visualization and mapping find three main clusters - AI and chatbot integration in HRM, transition from traditional to smart HRM systems, and ethical and human-centered algorithmic management. The results indicate that the most impactful countries in research under discussion include the US, China, and India; and IEEE Access, Applied Sciences, and Sustainability come out to be the most prominent journals. The findings illustrate the use of AI for supporting evidence-based decision making, promoting knowledge sharing, and increasing the efficiency of communication, stressing the necessity of implementing ethical transparent and human-centered AI in HRM and communication.

Keywords: Artificial Intelligence, Communication, Human Resource Management, Bibliometric Analysis, VOSviewer, Biblioshiny

1. INTRODUCTION

In the current business setting, where change is constant, firms find themselves facing many challenges such as the transformation to become digital, promote remote work, shortage of talent, and to maintain a smooth communication channel internally and externally (Trenerry et al., 2021). This has led to firms adopting technological innovations designed to promote efficiency, enhance decision-making using data, and ensure active participation and communication between employees (Parry & Battista, 2023; Rožman et al., 2022). AI is being used to achieve these objectives (Jarrahi, 2018; Alsaif and Sabih Aksoy, 2023). Using AI technologies, firms can automate their HR processes, facilitate the process of recruitment and onboarding, and promote communication within teams and hierarchy levels (Kshetri, 2021; Palos-Sánchez et al., 2022). Incorporation of AI technology in HR management and organizational

communication (Gal & Tursunbayeva, 2022) will reduce human input, increase accuracy and fairness, as well as optimize decision-making.

From a theoretical perspective, there are certain principles of the “Technology Acceptance Model” (TAM) and “Knowledge Management” (KM) theories that would help explain the increased usage of AI in HRM and Communication, such as TAM indicates technology acceptance based its use and easiness (Davis, 1989; Dwivedi et al., 2021). This is one more reason why businesses start implementing the AI systems in HRM and communication management functions. Later, the “Unified Theory of Acceptance” and “Use of Technology” (UTAUT) theories expanded the scope of TAM by adding such aspects as social influence and facilitating conditions, thus becoming more applicable for digital workplace technologies (Venkatesh et al., 2003).

However, if TAM focuses on behavior-based acceptance of AI technologies, KM framework complements how AI technologies assist in creating, sharing and utilizing the knowledge in organizational systems. According to KM theory, AI technology helps with collecting, transferring and using knowledge that increases collaboration, communication efficiency and decision-making processes (Alavi & Leidner, 2001; Mittal et al., 2023).

Nonaka & Takeuchi (2007) emphasizes the role of constant interaction of tacit and explicit knowledge in its evolution, which is increasingly supported by intelligent data systems in AI. Hence, capabilities of AI such as “machine learning”, Chatbots, “natural language processing”, and automation help organizations personalize the experience of their employees in terms of communication workflows (Madhumithaa et al., 2025; Kshetri, 2021).

While theoretical frameworks recognize AI’s disruptive influence on HRM and communication, empirical literature on the application of AI is fragmented. While a number of papers narrow down the scope of research to particular HR functions like performance appraisal, recruiting, and training, and failing to cover the wider topic of AI adoption in HR and communication in general (Votto et al., 2021; Kaushal & Ghalawat, 2023; Strohmeier & Piazza, 2015; Maghsoudi et al., 2025), current review works tend to base their conclusions on insufficient sample sizes, short periods of observation, or even geographic boundaries, thus providing only fragmentary information (Basu et al., 2023; Prikshat et al., 2023; Fenwick et al., 2024). At that, bibliometric analysis and scientific mapping are rarely used as research methods to identify and visualize the intellectual patterns in the area (Bondarouk & Meijerink, 2024; Abraham et al., 2019; Donthu et al., 2021).

To overcome these limitations, this study uses a bibliometric approach that combines Biblioshiny and VOSviewer software to get a thorough view of scientific publications on AI in HRM and communication. Such instruments allow conducting quantitative analysis and visualization of publication trends, author and source productivity, as well as structuring of concepts and ideas. Using such approach, the current research addresses the questions below:

RQ1: Where does the literature currently stand regarding the research on AI, HRM and Communication, and what has been the progress of the literature in this field over time?

RQ2: What is the current knowledge structure [consisting of (2a) conceptual structure and (2b) intellectual structure] of the literature on AI in HRM and Communication?

The aim of addressing the above-mentioned research questions in this paper is to make an essential contribution AI in HRM and communication field in two fundamental aspects. In the first place, this paper will outline the process of formation, boundaries, and dynamics of AI-based research in HRM and communication, thus highlighting the key figures, institutions, and publications that influence the interdisciplinary field in question. In the second place, this paper will reveal the conceptual and intellectual structure of the research domain under study through the prism of Theory of Technology Acceptance Model (TAM) and Knowledge Management (KM).

2. METHODOLOGY

The present study reviews AI Impact on HRM and communication systematically, which answers two research questions mentioned earlier. This would be done by conducting a quantitative literature review and bibliometric analysis of the selected publications (Bamel et al., 2020). This method allows the researcher to conduct a thorough and unbiased analysis of the literature that may arise due to either the inclusion or exclusion of an article from the review. Bibliometric analysis provides an objective way to evaluate the body of literature and identify current trends in the research, concept and intellectual structure of this area of study (Dhillon, 2026; Donthu et al., 2021; Zupic and Cater, 2015). The study employed the “Bibliometrix package” in R, and “VOSviewer”, for analyzing the chosen articles, performing scientific mapping and bibliometric evaluations (Aria & Cuccurullo, 2017).

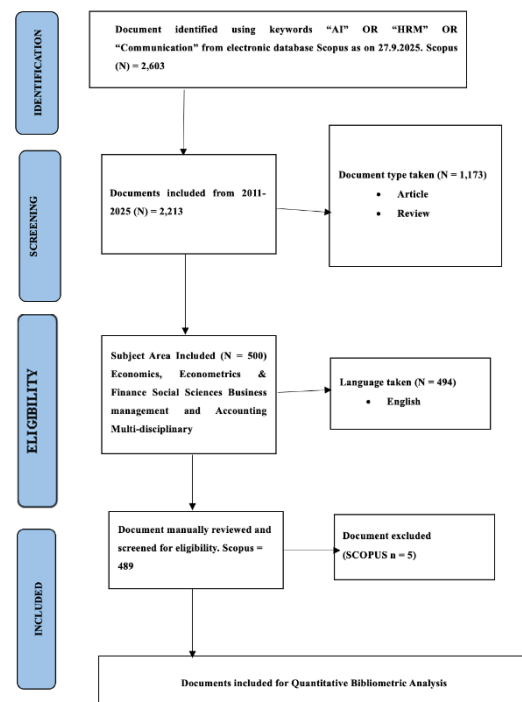
2.1 Data Retrieval

The research adopted a structured methodology to retrieve bibliometric information. Reputable sources were searched and sourced from the Scopus database on September 27, 2025, to form an extensive data set for bibliometric analysis. Scopus was chosen because of its extensive and consistent coverage

of scholarly literature (Waltman, 2016). The research adhered to a systematic search methodology following the existing guidelines for conducting literature reviews (Jones et al., 2011). Such a methodology ensures transparency, objectivity, and replicability in the process of data acquisition (Creswell, 2003). To retrieve the relevant publications focusing on titles, abstracts, and keywords, study using: TITLE-ABS-KEY ("AI" OR "AI" OR "machine learning" OR "ML" OR "deep learning" OR "neural network" OR "natural language processing" OR "NLP" OR "cognitive computing" OR "intelligent systems") AND TITLE-ABS-KEY ("human resource management" OR "HRM" OR "talent management" OR "employee engagement" OR "recruitment" OR "performance appraisal" OR "workforce analytics" OR "personnel management" OR staffing OR "employee retention" OR "people management" OR "talent acquisition" OR "personnel selection") AND TITLE-ABS-KEY ("communication" OR "media" OR "interaction" OR "conversation"). The search strategy used several synonyms and popular abbreviations in combination with Boolean operators (AND/OR) to achieve accurate document retrieval, but at the same time, cover the whole research field. The results of such a search gave 2,603 publications from 2011 to 2025. To filter out low-quality, irrelevant or inconsistent papers, inclusion and exclusion criteria were used as recommended by Tranfield et al., (2003). After applying the publication date criterion of 2011-2025, 2,213 papers were identified. After including only journal articles and reviews, and excluding book chapters, notes, conference papers, editorials and letters, the dataset consisted of 1,173 documents. Then, the filtering process included the subject area where the publications had to be indexed only in "computer science", "social science" and "business management and accounting". Thus, there remained 500 papers. Only publications in English were considered, while Chinese, Spanish, Russian, Turkish and German languages were excluded. Therefore, 494 documents were found.

The rest of the articles were manually filtered out depending on their titles, abstracts and author keywords to make sure that they specifically covered the connection between AI, HRM and communication, while all other articles were eliminated from the database. This

way, the final set of publications contained 489 articles. This set of publications was depicted by means of the PRISMA model (Figure 1).



Source: Inspired from Moher et al. (2009)

Figure 1. Bibliometric analysis of AI, HRM and communication for the period 2011- 27th Sep 2025

To retrieve the relevant publications focusing on titles, abstracts, and keywords, study used the following search string: TITLE-ABS-KEY ("AI" OR "AI" OR "machine learning" OR "ML" OR "deep learning" OR "neural network" OR "natural language processing" OR "NLP" OR "cognitive computing" OR "intelligent systems") AND TITLE-ABS-KEY ("human resource management" OR "HRM" OR "talent management" OR "employee engagement" OR "recruitment" OR "performance appraisal" OR "workforce analytics" OR "personnel management" OR staffing OR "employee retention" OR "people management" OR "talent acquisition" OR "personnel selection") AND TITLE-ABS-KEY ("communication" OR "media" OR "interaction" OR "conversation"). The search strategy used several synonyms and popular abbreviations in combination with Boolean operators (AND/OR) to achieve accurate document retrieval, but at the same time, cover the whole research field. The results of such a search gave 2,603 publications from 2011 to 2025. To filter out low-quality,

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3. RESULTS AND DISCUSSION

The research framework of AI, HRM, and communication is presented in Section 3 to address RQ1. It includes an analysis of overall publication trends (section 3.1.1), examination of annual publication trends (section 3.1.2), identification of prolific authors (section 3.1.3), assessment of the top 20 most cited authors (section 3.1.4), and evaluation of the most productive sources, countries, and keywords (section 3.1.5). Based on the results of RQ1, Section 4 deals with RQ2 by employing “Thematic map”, a “Sankey diagram” and the analysis of “Bibliographic coupling” between the main documents.

3.1.1 RQ1. Publication Trends and General Description of Research on AI in HRM and Communication

Section 3.1.1 explains research trends and provides a holistic view of the study on AI in HRM and communication. The dataset includes 489 documents, comprising 465 research articles and 24 reviews, published

from 2011–2025 in 322 publication sources with mean citations of 19.34. There are 1,746 authors with 48 single-authored publications. 28.63% of publications involve international collaboration, this indicates towards cross-border research interests. Table 1 presents a comprehensive description of the entire data.

Table 1: Descriptive statistics of dataset

Description	Results
Timespan	2011-2025
Sources (Journals, Books, etc)	322
Documents	489
Document Average Age	2.55
Average citations per doc	19.34
References	4542
DOCUMENT TYPES	
article	465
review	24
DOCUMENT CONTENTS	
Keywords Plus (ID)	3676
Author's Keywords (DE)	1886
AUTHORS	
Authors	1746
Authors of single-authored docs	48
AUTHORS COLLABORATION	
Single-authored docs	48
Co-Authors per Doc	3.98
International co-authorships %	28.63

Source: Scopus database accessed on 27/09/2025

Once descriptive characteristics of all documents are determined, an analysis of the temporal development of the research output is needed for bibliometric exploration of “AI in HRM and communication”.

3.1.2 Trends in Annual Research Productivity

The yearly trend of publication on AI, HRM and communication is shown in Figure 2 for the period 2011-2025. The publications were relatively limited until 2016, which corresponds to the initial phase of development of research in this field. An upward trend is seen since 2017, and a sharp surge can be seen post-2020, indicating that the academic interest and the relevance of applications of AI in HRM and communication.

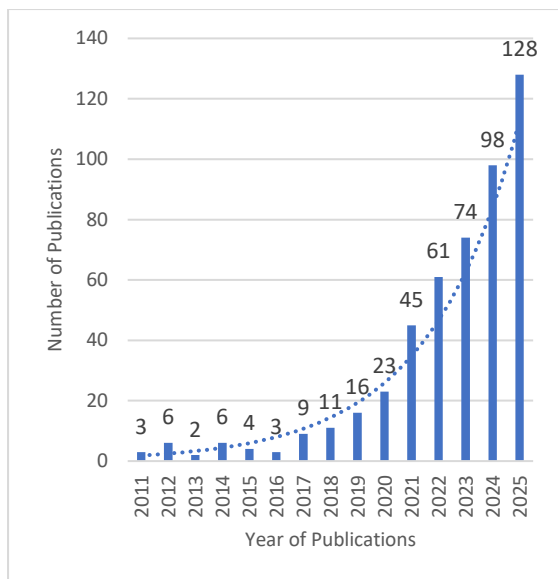


Figure 2. Annual publication trends in AI, HRM, and communication research

The publications were the most profound in the year 2025 with 128 documents. The constant growth pattern indicates an exponential progression of academic commitment, with the growing interdisciplinary nature and consolidation of this emerging field. The observed growth also underscores the rise of communication as a key component of HR's AI-driven strategies, with AI tools increasingly being utilized to improve HR recruitment communication, employee engagement, organizational communication and digital workplace collaboration. Publication rate reveals the growing academic interest in the subject. We have also identified key scholars which provides intellectual development and collaborative aspects around AI, HRM and Communication.

3.1.3 Analysis of Research Productivity Among Scholars in AI, HRM and Communication

The most influential authors identified in the mentioned field are given in Annexure 1 presents the top 20 (most productive) authors with their h, m, and g index. The table ranking suggests that McNeese, N.J. (6 publications and 245 citations) at Clemson University, USA, is the most impactful author. His research focuses on Human-AI teaming, Human-centred AI and team cognition. Li, Y comes next in the list with six publications and 108 citations (University of Science and Technology, China). Further authors such as Zhu, H. (Jiaotong University, China, TC=215), Demir, M. (Arizona State

University, USA, TC=144), Wang, X. (University of California-San Diego, USA, TC=142) and Dutta, D (IIM, Bangalore, India, TC=124) have contributed five publications each. Their research emphasizes AI adoption and human-technology interaction. They also discussed HR analytics, human-AI collaboration and organizational behaviour. Indian researchers such as Mishra, S.K., Ahirrao, S.N., Gaikwad, M., and Kotecha, K.V. (Symbiosis International University, India, TC=108) have made very impactful contributions in the domain of AI technologies. Their study discussed human-AI integration and the advancement of deep learning and neural networks. Some emerging contributors like Wang, F. (University of Texas, USA, TC=96), Cagan, J. and Gyory, J.T. (Carnegie Mellon University, Pennsylvania, TC=92) and McComb, C.C. (Pennsylvania State University, Pennsylvania, TC=92) have contributed four publications each and they have analyzed very important aspects like digital trust, team communication and human-technology interaction in their research. The analysis shows a strong global research network that connects AI, HRM and communication. The contribution from developed and developing nations indicates a growing trend towards interdisciplinary research and more use of human-centred AI technologies.

Beyond productivity, citation impact is more sophisticated indicator of research influence. As a result, the most cited and conceptually influential papers that have played a key role in advancing AI in HRM and communication are emphasized.

3.1.4 Authors with the Most Cited Individual Works in AI, HRM and Communication

It has been well-established that an evaluation of the effect of individual research on a specific field is necessary to grasp the intellectual development and structure of the field. Annexure 2 lists the top 20 research publications which have the greatest impact in the field of AI, HRM and communication. The most cited papers are Sima et al. (2020) with 490 citations, which highlights the effects of Industry 4.0, laying a theoretical basis for the transformation enabled by technology for human capital and consumer behaviour. Following this, the second most cited article, Budhwar et al. (2023), indicates the impact of generative AI and ChatGPT on HRM practices in organizational processes. Several other papers, such as Ragini et al. (2018) on the

application of big data analytics for disaster response (326 citations) and Mercado et al. (2016) on agent transparency in human-AI teaming (319 citations). The publications focus mainly on topics like Human-AI collaboration, ethical integration of AI, and evidence-based decision-making. These investigations are mostly published in top journals like “Human Resource Management Journal”, “Sustainability”, “International Journal of Information Management” and “Human Factors”, signifying the interdisciplinary growth and increasing research relevance of this discipline.

The analysis of the most cited authors and publications identifies the key intellectual influences in this research area. The following section provides insights into the key sources, countries, and keywords driving AI, HRM and communication research, to gain further insight

into the distribution and thematic orientation of the research.

3.1.5 Research Productivity Across Sources, Countries, and Keywords in AI, HRM and Communication

In order to get a sense of what were the great ground breakers and what were their major works, the we have identified the most prolific authors and their important works. Table 2 shows the top 20 journals that publish research on AI, HRM, and communication.

- *Keywords:* AI, Machine Learning, HRM, Deep Learning, social media, Recruitment, Communication, Employee Engagement, Natural Language Processing, Chatbot, Sentiment Analysis, Digital Transformation, Automation, and Big Data. (The table was generated with the Biblioshiny platform with Sankey diagram. This figure was generated with the help of the Keyword Plus function, which selects

Table 2: Essential Parameters’ Matrix in AI, HRM, and Communication

Journals	TP	TC	Country	TP	TC	Keywords	Frequency
IEEE Access	21	574	USA	277	1098	AI	110
Applied Sciences	10	41	China	173	774	Machine learning	54
Sustainability	8	622	India	129	1185	Human resource management	26
“Proceedings of the ACM on Human-Computer Interaction”	6	241	United Kingdom	49	60	Deep learning	21
Computers in Human Behavior	6	120	Australia	45	566	Social media	19
Technological Forecasting and Social Change	5	300	Spain	37	152	Recruitment	18
IEEE Internet of Things Journal	5	84	France	34	674	Employee engagement	14
International Journal of Molecular Sciences	5	83	Germany	32	409	AI	12
Cogent Business and Management	5	45	Saudi Arabia	30	49	Natural language processing	12
Computational Intelligence and Neuroscience	5	20	Canada	26	652	AI	9
Expert Systems with Applications	4	44	Italy	24	153	Chatbot	9
IEEE Transactions on Human-Machine Systems	3	110	Jordan	23	13	Sentiment analysis	9
PLOS Computational Biology	3	71	Japan	18	13	Human resources	8
Neurocomputing	3	54	Pakistan	18	331	Technology	8
Journal of Mechanical Design	3	50	Portugal	17	192	Covid-19	7
Personal Review	3	45	Egypt	15	55	Digital transformation	7
Computers, Materials and Continua	3	32	Poland	15	11	HRM	7
International Journal of Organizational Analysis	3	32	Iran	14	10	Automation	6
Sensors	3	26	United Arab Emirates	14	41	Big data	6
Big Data and Society	2	35	Sweden	13	31	Human-AI teaming	6

Abbreviations: TC= Total Citations; TP= Total Publications

Data Source: Scopus

words from document titles and cited references. These keywords were used to create a “weighted inclusion index” through frequency of their occurrence in the data set, thereby structuring the visualization of the relationships between these keywords.

- Most productive journals: IEEE Access, Computers in Human Behavior, Applied Sciences, Sustainability and Technological Forecasting and Social Change.
- Most productive countries: Australia, USA, India, China, and United Kingdom emerged as leading contributors to research on AI, HRM, and communication.
- In this interdisciplinary field, India and China, as developing nations, show global academic involvement and global relevance through substantial research output.

While the preceding sections offer a descriptive understanding of the publication and authorship patterns, the next section delves deeper into the conceptual and intellectual structures underlying this body of research. Through strategic mapping, Sankey diagrams, and bibliographic coupling analysis, it explores how research themes have evolved and interconnected over time.

3.2 RQ2a Conceptual structure

A conceptual structure serves as a vital analytical tool for understanding how the fundamental components and relationships within a research field are organized, thereby providing a comprehensive explanation of its key concepts and functions (Taylor et al., 2011). Examining the organization of these underlying features enables researchers to identify the core and emerging themes that shape the intellectual development of the field (Aria and Cuccurullo, 2017). In line with this approach, the present study explores the conceptual structure of AI within the domains of HRM and communication. A “keyword co-occurrence” analysis of authors was utilized to explore the thematic landscape of this domain. The bibliometrix package in R software was utilized to process visualisation (Bamel et al., 2020).

3.2.1 Strategic Visualization of Research Themes in AI, HRM and Communication

Strategic visualisation is a two-dimensional diagram used to categorize research themes in four main groups: motor themes, basic themes,

emerging and declining themes. It also gives niche and specialized themes (Cobo et al., 2011). Four major themes of the strategic diagram of AI research in the domain of HRM and communication are shown in Figure 3. The relative importance of the research theme in the area is indicated by the size of the circles. This diagram illustrates the development and significance of various research fields and helps to recognize well-established, foundational, emerging, and specialized topics.

3.2.1.1 Motor Theme: Positioned in the upper-right quadrant, and defined by both high centrality and high density, signifying that it represents a well-developed and highly influential research domain within the field. Keywords in this cluster include machine learning, deep learning, social media, AI, HRM, and “employee engagement”.

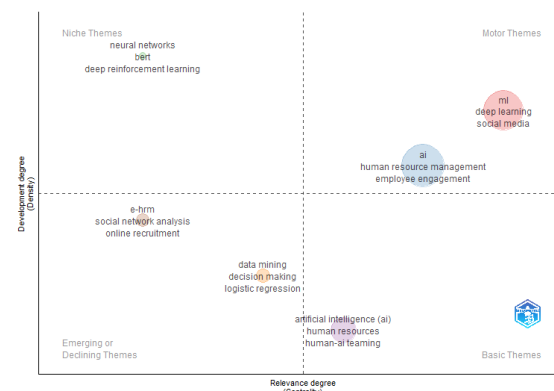


Figure 3: Strategic Map of AI Research in HRM and Communication

The theme indicates the role of AI in HRM and communication, such as the use of AI in recruitment decision-making, the use of AI in communication, and application of AI in employee engagement. The topics in the motor quadrant are central and strongly interrelated, and are the driving force of the research field. The AI- driven HRM is moving towards more communication-centric and employee-focused organizational practices, signifying the strategic incorporation of intelligent technologies within modern workplaces.

3.2.1.2 Basic Theme: This theme is in the lower right-hand quadrant and has a high density and a low centrality. It contains words related to AI, human resources, and human-AI teaming. The high density may show that the topics are developed internally, but the links with other themes are rather weak. The

research in this quadrant tends to focus on the fundamental concepts of AI, such as ways in which AI can be applied in HR processes, how human workers can collaborate with AI systems, and how to work with intelligent systems. These basic themes provide a conceptual foundation for future studies and development of AI-supported communication that enables better communication and collaboration among employees in the context of strategic HRM.

3.2.1.3 Emerging Theme: In the bottom left quadrant (Low density and low centrality) are areas of research that are still in their infancy and not yet fully established in the core of research. The cluster contains keywords like eHRM, social network analysis, online recruitment, data mining, decision making, and logistic regression. The topics mentioned above are focused on specialized fields where HRM and communication research are AI-driven. It is in its early phase and could be investigated further and integrated into the mainstream of the research. Future research is likely to see increasing focus towards the application of AI in digital communication, the development of intelligent recruitment processes, and the effective utilization of AI data for informed decision-making in HRM to enhance strategic HRM practices.

3.2.1.4 Niche Theme: This category is in the upper left quadrant, high density, low centrality, demonstrating well-developed topics that have few linkages with other topics in the research area. This quadrant contains keywords like neural networks, BERT and deep reinforcement learning. Research within this theme is directed towards technical AI models and advanced algorithms that are used in HRM and communication, particularly in specific HR contexts like predictive analytics, talent management modelling, etc., or the automation of HR tasks. These themes are specialized, and the advancement of AI within this field hold significant promise towards the development of communication-driven, advanced HRM applications in the future.

3.2.2 Sankey Visualization of Research Linkages in AI, HRM and Communication

Sankey diagram shows the development of the themes related to AI, HRM and Communication research between 2011 and 2025. The size of each node reflects the number

of research papers in a topic and the links between nodes indicate how topics evolved and interrelated over time (Cobo et al., 2011). From 3,676 Keyword Plus entries, a representative sample of 930 keywords was chosen. Keyword Plus are terms automatically generated from an article's references and metadata that may not be in the "article's keywords" or "abstract", found in Scopus. They will be helpful in representing the main theme of the publication and will assist the researcher in locating the related literature quickly. The keywords selected were used to create the diagram and a "weighted inclusion index" was determined using the occurrence frequency of each keyword, giving a full picture of the growth, continuity and new trends in the field of research over the study period.

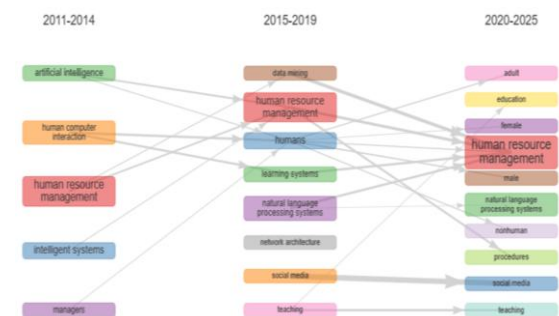


Figure 4: Sankey diagram illustrating the evolution of AI, HRM, and Communication research from 2011 to 2025

Source: Author's own creation

The weights assigned to the keywords used to build the Sankey Diagram and were weighted by the frequency of the keywords. This method gives more weight to the terms occurring more commonly across article titles within the data set, indicating their salience in the field. The Sankey diagram illustrates and visualizes a large number of keywords, their weights reflecting their frequencies, and provides a detailed and representative view of the chronological evolution and connections of research themes.

To create a meaningful thematic map, the publication period from 2011 to September 2025 was divided into three eras (2011-2014, 2015-2019, and 2020-2025), each reflecting a representative volume of research. Figure 4 depicts the thematic evolution of AI, HRM and communication research over the past decade.

The first era (2011-2014) saw the early showcasing and centrality of AI, human-computer interaction, HRM and managers as important motor themes. The concepts of data mining, neural networks, and so on were basic themes, with well-developed but less interrelated bodies of research. The early phase provided conceptual foundation for the next step in the progression of HRM and communication-related research themes, which involved the integration of AI technologies into practical applications.

During the second era (2015-2019), a learning system, a natural language processing system, a network architecture, social media, teaching, HRM and data mining were added. Basic themes were well developed within the organization, with behavioral research and learning systems emerging as some of the more bottom-up themes. Motor themes continued to focus on such areas as AI, HRM and human-computer interaction. Niche themes, like neural networks and natural language processing, were well developed but mostly related to the periphery of the research stream, while emerging themes, such as studies with humans and specialized applications, were starting to get some attention. The shift is indicative of AI's increasing role in HRM functions beyond traditional technology to communication, moving towards more intelligent, interactive and data-driven organizational practices.

In the third era (2020-2025), the themes of motor continued to be AI, HRM and decision making. The main themes were related to learning systems, machine learning, natural language processing, education, social media and teaching. Themes that developed included studies on various population groups (adults, males, females, and nonhumans) and studies suggesting future research. Sects like neural networks and human-computer interaction were important, though limited, areas for developing technical and methodological innovations. Thematic development illustrates the strength of the key research themes and the growth of emerging and niche themes, expanding the breadth and scope of AI, HRM, and communication research. The shift is consistent with a broader trend of leveraging AI to improve HRM and communication practices, prioritizing the use of AI for intelligent decision-making and the human-AI interaction in the workplace.

The evolution of research on AI, HRM and communication is shown in Figure 4. The diagram illustrates how certain topics of study arose in one period and helped to create new topics in the next periods. For instance, HRM was present as a motor theme in early phase, which was the most prominent and central, and it remained present later on. Themes emerged, including data mining, learning systems and natural language processing, showing increasing scholarly interest. Some niche themes, such as neural networks and more complex AI models, were specialized but well developed, and had few links to the main research. The latest is a new generation of social media, teaching, procedural study, and demographic research (adult, male, female, nonhuman) themes that suggest new avenues for future study. To sum up, the field of AI research in HRM and communication can be seen in Figure 4, where the themes continuously evolve, converge and diverge.

3.2.3 Analysis of "Bibliographic Coupling" Among "Primary Documents"

"Bibliographic Coupling" is a prospective analytical approach used to uncover emerging themes and potential research directions within a specific field over time (Vogel, 2012). "When two publications cite the same source, they are considered bibliographically coupled, as their reference lists exhibit a notable degree of overlap" (Klarin, 2024). This principle implies that documents drawing upon similar references are bibliographically related, reflecting shared research interests or thematic orientations. In the present study, a network comprising four clusters was established. Using the defined criteria for the "minimum citation counts of an author" and the "number of authors to be included," three distinct clusters were identified, each representing authors meeting these thresholds. The constructed network includes the 100 original sources exhibiting the strongest link strengths, and the characteristics associated with the four resulting clusters are discussed in the subsequent section.

Cluster 1: AI and Chatbot Integration in HRM

The documents in Cluster 1 (marked in red, 17 documents) focus mainly on HRM integration of AI and chatbot. Of these, the article "Are Chatbots Really Useful for Human Resource Management?" (Majumder & Mondal, 2021) has the highest number of citations, at 84. The

authors pointed out the increasing use of chatbots that utilize AI in HR analytics and human resource information systems (HRIS). They specifically stressed upon their potential to improve communication, decision-making automation, and improvement in the operational efficiency in HR processes. Likewise, in their research “Augmented Employee Voice and Employee Engagement Using AI-Enabled Chatbots: A Field Study”, Dutta et al. (2023) with 64 citations, demonstrate that the use of AI-powered chatbots can facilitate Employee Engagement, Employee Voice, and Employee Trust through a two-way, interactive communication between employee and management. Weber (2023) (21 citations) examines unrealistic expectations on the opportunities of AI in HRM from a different angle and uncovers cognitive biases that can cause HR professionals to overoptimism about the benefits of AI and underestimate its limitations.

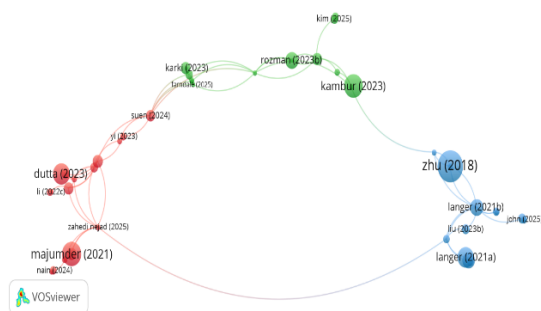


Figure 5: Bibliographic coupling network

Furthermore, Zhou et al. (2023) (21 citations) studied the drawbacks of AI in HRM, identifying elements of algorithms that have a negative impact on fairness, transparency, and employee health, such as opacity, instantaneousness, and comprehensiveness. The cluster aims to foster a research-oriented dialogue on the opportunities and ethical challenges arising from AI-driven HRM and highlight the need for adopting a balance between technology and responsible HRM practices for sustainable and inclusive workplace transformation.

All these results show that AI-powered HRM can contribute to the transformation of the organizational communication process as it becomes more transparent, interactive and responsive, which enhances employee-organization relationships.

Cluster 2: Transition from Traditional to Smart HRM

Cluster 2 is green in colour and includes 16 documents. In this cluster, the transition of HRM from a traditional to smart and e-HRM is discussed. The most important study in this cluster is by Kambur and Yildirim, which was published in 2018 and has 76 citations. The title of the study is “From Traditional to Smart Human Resource Management”; it reviewed 5580 studies and identified that only 96 studies are relevant that map the progression of e-HRM and smart HRM. The study focuses on the interaction of human-machine, information systems, AI, Industry 4.0 and Chatbots. Another important study in this cluster is “Maximizing Employee Engagement through Artificial Intelligent Organizational Culture...” by Rozman et al. (2023) with 38 citations. This study highlights that in Slovenian firms, team performance and employee engagement are improved by AI-supported leadership and training. In this cluster, the next important paper is “Revisiting the Role of HR in the Age of AI” by Fenwick et al. (2024) with 22 citations. This paper discusses the role of AI in organizational decision-making, but it also emphasises that employees play a key role. The AI can be adopted by organizations at different levels, but during its adoption, organizations have to face ethical, technical, and human challenges. Another important study in this cluster is by Karki and Hadikusumo (2023), and have 20 citations. This paper discusses the practical use of AI. In their study, they developed an AI-based machine learning model using the WEKA software. The study was done on the Nepal Construction industry. This model was used for predicting how well project managers are likely to perform. This study helps in evaluating the employee skills and it also helps in improving recruitment decisions. This cluster shows that human resource management is becoming smarter with the use of AI, but employees are still very important for organizations. The more and more use of AI helps organizations in better communication, easy information sharing, employee engagement, and better decisions can be taken in HRM.

Cluster 3: Ethical and Human-Centered Algorithmic Management

Next, Cluster 3 (13 documents) is blue in colour. The documents present in this cluster focus on the development of ethical and human-centred

AI systems for organizations. The most influential paper in this cluster is “Value-Sensitive Algorithm Design: Method, Case Study and Lessons” by Zhu et al. (2018), and it has 142 citations. This study introduces a framework for designing AI systems. This framework says that considering the opinions and values of stakeholders while designing an AI system will help in reducing AI bias and also shows that technology supports the needs and values of society. Further, a study “Changing the Means of Managerial Work: Effects of Automated Decisions Support Systems on Personnel Selection Tasks”, by Langer et al. (2021) with 60 citations. This study examined how the use of AI helps managers perform their work. This study concluded that if managers use AI-based decision support systems, then it will help them to make decisions with confidence and will make them more satisfied. Another study was also by Langer et al. (2018) and has 38 citations.

The title of the study is “Spare Me the Details: How the Type of Information about Automated Interviews Influences Applicants' Reactions”. This study was based on the reactions of applicants to AI-based recruitment systems. This study concluded that the level of process justification (in addition to procedural information) has a significant impact on perceptions of fairness and organizational attractiveness. Further deliberations include, Li et al. (2024), with 36 citations, in “Humans as Teammates: The Signal of Human-AI Teaming Enhances Consumer Acceptance of Chatbots,”.

The author discussed the beneficial impact of human-AI collaboration on user adoption due to the recognized authenticity and interdependence of human and AI agents. The cluster reflects the transition from automation based on data to algorithmic automation that is value-driven, participatory, and ethically based, highlighting the need for transparency, accountability, and human agency in the algorithmic systems that are deployed in organizational decision-making. The results highlight the significance of clear and reliable communication within AI-enabled HRM, as it can help build employee trust, organizational credibility and acceptance of AI-assisted decisions, thereby ensuring that ethical AI systems bolster employee confidence in the process.

4. CONCLUSION

The research provides a bibliometric and network analysis of AI in HRM and communication. It covers a period of almost fifteen years from 2011 to 2025. Through this paper, we examined the most impactful authors, significant research work, keywords, and contributing countries. Our analysis suggests that there is upward growth in publication, and it shows an average annual growth rate of 33.9%. It reflects the growing academic and practical relevance of AI-supported HRM systems for improving workplace analytics, workforce engagement, and organizational communication. Our study also identifies McNeese N.J to be the most influential researcher and Li Y, Zhu H, Demir M, and Wang X as the leading contributors. In countries, China, India, and USA emerged as leading contributors. The journals IEEE Access, Applied Sciences, and Sustainability are recognized as the most productive sources. This paper has also done strategic mapping by using a Sankey diagram and bibliographic coupling. As discussed, and described, the strategic map (Figure 3) presented four important research themes, namely motor, basic, niche, and emerging. This also shows the thematic evolution (Figure 4) of topics like machine learning, deep learning, and human-AI collaborations.

The bibliographic coupling reveals three main clusters: first (AI and chatbots integration in HRM), second (transition from traditional to smart HRM systems), and third (ethical and human-centered algorithmic management). These clusters show the field's progression from automation-focused research to intelligent, transparent and human-centered management practices. This study's results reveal that the field of AI research in HR and communication has turned into a significant and morally aware field of research. It is also emphasized that it is effective to assist in human-centred digital transformation in the age of industry 5.0. The research also supports the principle of the “Technology Acceptance Model” (TAM) by showing that “perceived usefulness” and “ease of use” affect the usage of AI in HRM and communication systems. This study also extends the framework of Knowledge Management (KM). AI also contributes in enhancing, sharing and communication of knowledge within organizations.

5. IMPLICATIONS

The implications of this study highlight how the integration of AI, HRM and communication is reshaping organizational practices, research priorities and managerial responsibilities. The findings show that AI is changing HRM from an operational function to data-driven, communication-centred systems. It improves transparency, engagement and better interaction among employees. This study contributes to the extant literature by explaining the relationship between technological capability, communication and HR outcomes. It also explains the impact of algorithmic systems on the relationships among organizations and their decision-making. This study also has very important implication, in which it extends the Technology Acceptance Model (TAM). It explains that employees adopt AI-based HR system only when they find it useful, easy to use and trustworthy. The study also contributes towards Knowledge Management (KM) perspective by showing role of AI in knowledge sharing and communication with the help of digital platforms. This research suggests that AI in HR is more successful when organizations use it fairly, communicate openly and gain employee's trust. The organizations need to develop AI based communications tools like, Chatbots, predictive analytics and decision support systems. These tools help in improving collaboration, ensure transparency and maintain human-centered approach. At a broader societal level, the findings highlight the importance of responsible AI use and ethical data management. It ensures fair and people-focused communication in HRM. By using AI in a responsible and ethical way, organizations can build employee trust, commitment and sustainable workplace.

6. FUTURE RESEARCH DIRECTIONS

This study enabled us to acquire a detailed and exhaustive knowledge of the status of the research in the area of AI in HRM and communication. This study helps us in the identification of the research gap in this domain. Firstly, the practical implementation of AI in developing nations like India is underexplored. These countries have different contextual and infrastructural factors that may affect adoption of AI. Secondly, AI is very effective for HR practices but still not much attention is given to study the influence of AI on communication, employee engagement and credibility building

of employees. Thirdly, Further research should investigate how AI can be used fairly and ethically, so that it not only supports employees but also improves their efficiency. Fourthly, more longitudinal and mixed-method studies need to be conducted. Also, HRM can be studied with new perspectives such as virtual reality and augmented reality, etc. (Yadav et al., 2023). It has been noted that the majority of the existing studies have focused on the evolution of AI-driven communication. Therefore, more studies should be undertaken to understand the sustained impact of AI organizational identity, employee wellness and digital inclusion. Further, instead of relying on one analysis technique, we need to incorporate thematic (Singh and Mittal, 2026) and coding analysis (Gupta et al., 2024) simultaneously for a more detailed, well-structured, and insightful systematic literature review. To date, only a handful of studies have discussed the impact of AI in HRM and communication. Besides this, lenses of several other frameworks, such as the technology acceptance model and knowledge management, may be used to gather newer insights on AI adoption and how it supports knowledge sharing and communication among organizations. Addressing these research gaps will help in understanding the relevance of AI in HRM and communication. By fulfilling these gaps, organizations can develop better AI systems that will be more employee-focused and more efficient and effective.

References

- Abraham, R., Schneider, J., & Vom Brocke, J. (2019). Data governance: A conceptual framework, structured review, and research agenda. *International journal of information management*, 49, 424-438.
- Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS quarterly*, 25(1)107-136.
- Alsaif, A., & Sabih Aksoy, M. (2023). AI-HRM: artificial intelligence in human resource management: a literature review. *Journal of Computing and Communication*, 2(2), 1-7.
- Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of informetrics*, 11(4), 959-975.
- Bamel, U. K., Pandey, R., & Gupta, A. (2020). Safety climate: Systematic literature

- network analysis of 38 years (1980-2018) of research. *Accident Analysis & Prevention*, 135, 105387.
- Bankins, S., Formosa, P., Griep, Y., & Richards, D. (2022). AI decision making with dignity? Contrasting workers' justice perceptions of human and AI decision making in a human resource management context. *Information Systems Frontiers*, 24(3), 857-875.
- Basu, S., Majumdar, B., Mukherjee, K., Munjal, S., & Palaksha, C. (2023). Artificial intelligence-HRM interactions and outcomes: A systematic review and causal configurational explanation. *Human Resource Management Review*, 33(1), 100893.
- Bondarouk, T., & Meijerink, J. (Eds.). (2024). *Research handbook on human resource management and disruptive technologies*. Edward Elgar Publishing.
- Bujold, A., Roberge-Maltais, I., Parent-Rochelleau, X., Boasen, J., Sénécal, S., & Léger, P. M. (2024). Responsible artificial intelligence in human resources management: a review of the empirical literature. *AI and Ethics*, 4(4), 1185-1200.
- Cobo, M. J., López-Herrera, A. G., Herrera-Viedma, E., & Herrera, F. (2011). Science mapping software tools: Review, analysis, and cooperative study among tools. *Journal of the American Society for information Science and Technology*, 62(7), 1382-1402.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative and mixed methods approaches*. Sage publications.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 13(3) 319-340.
- Dhillon, M. (2026). Global research on digital platforms in rural knowledge transfer during 2003-2025: A bibliometric analysis. *Indian Journal of Extension Education*, 62(1), 135-141.
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of business research*, 133, 285-296.
- Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., ... & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International journal of information management*, 59, 102168.
- Fenwick, A., Molnar, G., & Frangos, P. (2024). Revisiting the role of HR in the age of AI: bringing humans and machines closer together in the workplace. *Frontiers in artificial intelligence*, 6, 1272823.
- Gal, H. C. B., & Tursunbayeva, A. (2022). 3T framework for AI adoption in Human Resource Management: A Strategic Assessment Tool of Talent, Trust, and Technology. In *ITAIS 2022 Proceedings* (Vol. 28).
- Gupta, S. L., Mittal, A., Singh, S., & Dash, D. N. (2024). Demand-driven approach of vocational education and training (VET) and experiential learning: a thematic analysis through systematic literature review (SLR). *Asian Education and Development Studies*, 13(1), 45-63.
- Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. *Business Horizons*, 61(4), 577-586.
- Jones, M. V., Coviello, N., & Tang, Y. K. (2011). International entrepreneurship research (1989-2009): a domain ontology and thematic analysis. *Journal of business venturing*, 26(6), 632-659.
- Kaushal, N., & Ghalawat, S. (2023). Research perspective of artificial intelligence and HRM: a bibliometric study. *International Journal of Business Innovation and Research*, 31(2), 168-196.
- Klarin, A. (2024). How to conduct a bibliometric content analysis: Guidelines and contributions of content co-occurrence or co-word literature reviews. *International Journal of Consumer Studies*, 48(2). 13031
- Kshetri, N. (2021). Evolving uses of artificial intelligence in human resource management in emerging economies in the global South: some preliminary evidence. *Management Research Review*, 44(7), 970-990. <https://doi.org/10.1108/mrr-03-2020-0168>
- Madhumithaa, N., Sharma, A., Adabala, S. K., Siddiqui, S., & Kothinti, R. R. (2025). Leveraging AI for personalized employee

- development: A new era in human resource management. *Advances in Consumer Research*, 2, 134-141.
- Maghsoudi, M., Kamrani Shahri, M., Agha Mohammad Ali Kermani, M., & Khanizad, R. (2025). Mapping the landscape of AI-driven human resource management: A social network analysis of research collaboration. *IEEE Access*, 13, 3090-3114.
- Mittal, A., Singh, S., & George, S. R. (2023). Role of artificial intelligence in knowledge management: An empirical study of industry experts using stepwise multiple regression. *International Journal of Electronic Finance*, 12(1), 403-422. doi:10.1504/ijef.2023.10053587
- Nonaka, I., & Takeuchi, H. (2007). The knowledge-creating company. *Harvard business review*, 85(7/8), 162.
- Palos-Sánchez, P. R., Baena-Luna, P., Badicu, A., & Infante-Moro, J. C. (2022). Artificial intelligence and human resources management: A bibliometric analysis. *Applied Artificial Intelligence*, 36(1), 2145631.
- Parry, E., & Battista, V. (2023). The impact of emerging technologies on work: a review of the evidence and implications for the human resource function. *Emerald Open Research*, 1(4).
- Prikshat, V., Islam, M., Patel, P., Malik, A., Budhwar, P., & Gupta, S. (2023). AI-Augmented HRM: Literature review and a proposed multilevel framework for future research. *Technological forecasting and social change*, 193, 122645.
- Rožman, M., Oreški, D., & Tominc, P. (2022). Integrating artificial intelligence into a talent management model to increase the work engagement and performance of enterprises. *Frontiers in psychology*, 13, 1014434.
- Rožman, M., Tominc, P., & Milfelner, B. (2023). Maximizing employee engagement through artificial intelligent organizational culture in the context of leadership and training of employees: Testing linear and non-linear relationships. *Cogent Business & Management*, 10(2). 2248732
- Singh, S., & Mittal, A. (2026). Online review authenticity and helpfulness: an integrative literature review and research agenda for consumer purchase intention in hospitality. *Journal of Hospitality and Tourism Insights*, 1-19. <https://doi.org/10.1108/JHTI-09-2025-1048>
- Strohmeier, S., & Piazza, F. (2015). Artificial intelligence techniques in human resource management—a conceptual exploration. In *Intelligent techniques in engineering management: Theory and applications* (pp. 149-172). Cham: Springer International Publishing.
- Taylor, K. I., Devereux, B. J., & Tyler, L. K. (2011). Conceptual structure: Towards an integrated neurocognitive account. *Language and cognitive processes*, 26(9), 1368-1401.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British journal of management*, 14(3), 207-222.
- Trenerry, B., Chng, S., Wang, Y., Suhaila, Z. S., Lim, S. S., Lu, H. Y., & Oh, P. H. (2021). Preparing workplaces for digital transformation: An integrative review and framework of multi-level factors. *Frontiers in psychology*, 12, 620766.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 27(3)425-478.
- Vogel, R. (2012). The visible colleges of management and organization studies: A bibliometric analysis of academic journals. *Organization Studies*, 33(8), 1015-1043.
- 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.
- Waltman, L. (2016). A review of the literature on citation impact indicators. *Journal of informetrics*, 10(2), 365-391.
- Yadav, M., Khurana, R., Vihari, N. S., Mittal, A., Balodi, A., & Srivastava, A. P. (2023). Virtual Reality in Human Resource Management: Past, Present and Future Trends. <https://doi.org/10.1109/icraset59>

632.2023.10420290, 2023 International Conference on Recent Advances in Science and Engineering Technology (ICRASET), B G NAGARA, India, 2023, pp. 1-5, doi: 10.1109/ICRASET59632.2023.10420290.

Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational research methods*, 18(3), 429-472.

Annexure 1

Top Authors and Their Citation Metrics

Author	Affiliation	Research themes	NP	PY	TC	h_index	g_index	m_index
McNeese NJ	Clemson University, South Carolina, USA	Human-AI Teaming, Human-centered AI, HCI, and Team Cognition	6	2021	245	6	6	1.2
Li Y	University of Science and Technology, Wuhan, China	Human-AI Teaming, AI Adoption, Human-Centered AI, Consumer Technology Acceptance	6	2019	108	5	6	0.71
Zhu H	Xi'an Jiaotong University, Xi'an, Shaanxi, China	Environmental Infrastructure Perception, Emerging Technology Acceptance, Human-Technology Interaction	5	2018	215	4	5	0.5
Demir M	Arizona State University, Tempe, AZ, 85281, USA	Human AI Teaming and interaction, Trust and decision making in Human-Autonomy Teams	5	2021	144	4	5	0.8
Wang X	University of California-San Diego, La Jolla, CA, USA	HR Analytics, Employee Turnover Prediction, Workforce Management	5	2021	142	4	5	0.8
Wang Y	Xi'an Jiaotong University Xi'an, China	Data Privacy, IOT, AI, Neural network	5	2022	133	4	5	1.0
Dutta D	Indian Institute of Management	Organizational Behavior and Human Resource Management	5	2021	124	5	5	1.0

	, Bangalore, India							
Mishra SK	Indian Institute of Management Bangalore, India	Organizational Behavior, Human Resource Management, Employee Engagement	4	2021	109	4	4	0.8
Ahirrao SN	Symbiosis International University (Deemed University), Lavale, Pune, India	Convolutional Neural Networks, Deep Learning, Deep Neural Networks, Learning Algorithms, social media	4	2021	108	4	4	0.8
Gaikwa d M	Symbiosis International University (Deemed University), Lavale, Pune, India	Deep learning, Neural Network, social media, Natural Language Processing	4	2021	108	4	4	0.8
Kotecha KV	Symbiosis International University (Deemed University), Lavale, Pune, India	Machine Learning, Artificial Intelligence, Human-AI Collaboration	4	2021	108	4	4	0.8
Wang F	University of Texas at Arlington, Department of Criminology and Criminal Justice, USA	Cyber-Enabled Behavior and Communication, Digital Trust and Deception, Human- Technology Interaction	4	2023	96	3	4	1.0
Cagan J	Carnegie- Mellon University , Pittsburgh, PA	Engineering Design, Product Innovation, Human-Centered Design, Human-AI Collaboration	4	2022	92	4	4	1.0
Gyory JT	Carnegie Mellon University Pittsburgh, PA	Human-AI Collaboration, Real-Time Process Management vs. Human Team Impact, Team Communication and Trust	4	2022	92	4	4	1.0
Mccomb CC	The Pennsylvania	Engineering Education, Machine	4	2022	92	4	4	1.0

	State University, University Park, PA, USA	Learning, NLP, Deep Learning						
Song Y	Henan Normal University, Xinxiang, China	AI in HRM Institutional Impact on Economic Performance Trade and Export Quality Labor Mobility & Climate Change	4	2021	36	3	4	0.6
Li J	Institute of Geographic Sciences and Natural Resources Chinese Academy of Sciences, Beijing, China	IOT, Artificial Systems, Data Storage	3	2017	132	3	3	0.33
Schelble BG	Clemson University, Clemson, SC, USA	human-AI teaming and interaction	3	2021	121	3	3	0.60

Source: Retrieved from Scopus database

Annexure 2

Most impactful individual research in the AI, HRM and communication

Title	Author and Year	Journal	DOI	Summary	TC	TC/Year
"Influences of the Industry 4.0 Revolution on the Human Capital Development and Consumer Behavior: A Systematic Review"	Sima et al. (2020)	<i>Sustainability</i>	https://doi.org/10.3390/SU12104035	Examines the impact of Industry 4.0 on human capital and consumer behavior, highlighting changes in skills, jobs, and technology adoption.	490	81.67
"Human resource management in the age of generative artificial intelligence: Perspectives and research directions on ChatGPT"	Budhwar et al. (2023)	Human Resource Management Journal	https://doi.org/10.1111/1748-8583.12524	Examines the impact of ChatGPT and generative AI on HRM, employment, and organizational processes.	480	160.0

"Big data analytics for disaster response and recovery through sentiment analysis"	Ragini et al. (2018)	International Journal of Information Management	https://doi.org/10.1016/j.ijinfor.2018.05.004	Examines the use of big data and sentiment analysis on social media for effective disaster response and recovery.	326	40.75
"Intelligent Agent Transparency in Human-Agent Teaming for Multi-UxV Management"	Mercado et al. (2016)	Human Factors: The Journal of the Human Factor and Ergonomics Society	https://doi.org/10.1177/0018720815621206	Examines the effects of agent transparency on operator performance, trust, and workload in human-agent multirobot management.	319	31.90
"An Internet of Things-Based Smart Waste Management System Using LoRa and Tensorflow Deep Learning Model"	Sheng et al. (2020)	IEEE Access	https://doi.org/10.1109/ACCESS.2020.3016255	Examines a smart waste management system using IoT and AI for real-time monitoring, waste classification, and segregation.	234	39.00
"Artificial intelligence and human workers interaction at team level: a conceptual assessment of the challenges and potential HRM strategies Open Access"	Arslan et al. (2021)	International Journal of Manpower	https://doi.org/10.1108/IJM-01-2021-0052	Examines the challenges HRM faces in managing human-AI (robot) team interactions, highlighting trust, job security, and performance evaluation issues.	205	51.25
"Intelligent recruitment: How to identify, select, and retain talents from around the world using artificial intelligence"	Allal-Cherif et al. (2021)	Technological Forecasting and Social Change	https://doi.org/10.1016/j.techfore.2021.120822	Examines how digital technologies enhance recruitment processes, highlighting e-recruitment tools, gamification, chatbots, and AI for talent identification, selection, and retention.	166	33.20
"Detection and classification of social media-based extremist affiliations using"	Ahmad et al. (2019)	Human-Centric Computing and	https://doi.org/10.1186/s136	Examines a deep learning-based framework for classifying	157	22.43

sentiment analysis techniques"		Information Sciences	73-019-0185-6	extremist and non-extremist tweets on social media, highlighting its potential for terrorism-related content analysis.		
"Gesture-based human-robot interaction for human assistance in manufacturing"	Neto et al. (2019)	The International Journal of Advanced Manufacturing Technology	https://doi.org/10.1007/s00170-018-2788-x	Examines a gesture-based human-robot interaction framework for collaborative assembly tasks, using wearable sensors and neural networks to classify gestures and assist workers efficiently.	146	20.86
"Value-Sensitive Algorithm Design: Method, Case Study, and Lessons"	Zhu et al. (2018)	Proceedings of the ACM on Human-Computer Interaction	https://doi.org/10.1145/3274463	Examines Value Sensitive Algorithm Design for creating AI systems that incorporate stakeholder input, balance multiple interests, and reduce bias in decision-making.	142	17.75
"A collaborative healthcare framework for shared healthcare plan with ambient intelligence"	Javed et al. (2020)	Human-Centric Computing and Information Sciences	https://doi.org/10.1186/s13673-020-00245-7	Examines a collaborative IoT- and AI-based framework for monitoring and managing cognitive health and fitness through stakeholder coordination.	129	21.50
"Toward the human - Centered approach. A revised model of individual acceptance of AI"	Giudice et al. (2023)	Human Resource Management Review	https://doi.org/10.1016/j.hrmr.2021.100856	Examines how human acceptance of AI influences HRM, proposing a human-centered framework that positions AI as amplifying human potential and supporting	122	40.67

				sustainable organizational growth.		
"Factors that influence new generation candidates to engage with and complete digital, AI-enabled recruiting"	Van Esch et al. (2019)	Business Horizons	https://doi.org/10.1016/j.bushor.2019.07.004	Examines how social media use, rewards, fairness, and trendiness influence candidates' engagement with AI-enabled recruiting, highlighting implications for HR strategies and digital hiring practices.	122	17.43
"A clinician friendly data warehouse oriented toward narrative reports: Dr. Warehouse"	Garcelon et al. (2018)	Journal of Biomedical Informatics	https://doi.org/10.1016/j.jbi.2018.02.019	Examines Dr. Warehouse, an open-source clinical data warehouse focused on narrative reports, leveraging NLP for patient-centric research, cohort recruitment, and high-throughput phenotyping.	121	15.13
"A New Livestream Retail Analytics Framework to Assess the Sales Impact of Emotional Displays"	Bhardwaj et al. (2021)	Journal of Marketing	https://doi.org/10.1177/0022429211013042	The study shows that neutral facial expressions in livestream sales optimize performance, revealing a U-shaped link between emotions and sales outcomes.	117	29.25
"The role of artificial intelligence in business transformation: A case of pharmaceutical companies"	Kulkov (2021)	Technology in Society	https://doi.org/10.1016/j.techsoc.2021.101629	The study shows AI transforms pharmaceutical business processes differently by company size, from R&D and HR in small firms to production and marketing in large ones.	92	18.40

"Federated Learning with Fair Incentives and Robust Aggregation for UAV-Aided Crowdsensing"	Wang et al. (2022)	IEEE	https://doi.org/10.1109/TNS E.2021.3138928	The study presents a fair and robust federated learning framework for UAV crowdsensing, ensuring privacy, fairness, and efficiency through 5G edge networks, incentives, and robust aggregation.	88	22.00
"Artificial Intelligence-HRM Interactions and Outcomes: A Systematic Review and Causal Configurational Explanation"	Basu et al. (2023)	Human Resource Management Review	https://doi.org/10.1016/j.hrmr.2022.100893	The paper reviews AI's impact on HRM, highlighting evolving themes that explain both opportunities and challenges in AI adoption.	87	29.00
"Are chatbots really useful for human resource management?"	Majumder and Mondal (2021)	International Journal of Speech Technology	https://doi.org/10.1007/s10772-021-09834-y	The paper examines AI-driven chatbots in HRM, highlighting their role in enhancing communication, decision-making, and employee engagement while addressing practical challenges.	83	16.60
"Conceptualisation of a 7-element digital twin framework in supply chain and operations management"	Ivanov (2023)	International Journal of Production Research	https://doi.org/10.1080/00207543.2023.2217291	The paper reviews digital twins in supply chain management, framing them as socio-technical systems with seven key elements that enable human-AI interaction and support Industry 5.0.	82	41.00

Source: Retrieved from Scopus database