INTEGRATION OF AI IN ENTERPRISES AND ITS IMPACT ON EMPLOYEE SATISFACTION, ENGAGEMENT AND TRUST IN HUMAN RESOURCE MANAGEMENT. BIBLIOMETRIC ANALYSIS

Katarína KRÁĽOVÁ

Abstract

The aim of this paper is to summarize the current state, knowledge and research trends on artificial intelligence in the area of its impact on the well-being, satisfaction, trust and engagement of employees in the enterprise. Understanding these relationships between AI-based decision-making and the well-being and engagement of employees in the enterprise will be crucial in the near future in designing artificial intelligence systems that should be not only effective but also ethical. In this context, this study aims to reveal the current state and trends in published studies of publications on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in human resource management through a bibliometric review. For this purpose, 94 publications on this topic were identified in the Web of Science (WoS) database and bibliometric analyses were performed using the software tool VOSviewer. These analyses resulted in bibliometric data such as the number of publications and citations by year, most cited authors, countries, publications, their collaborations, WoS categories, and content information regarding the topics and objectives of the studies. It was found that publications on AI in human resource management in the context of employee well-being, satisfaction, and engagement started to appear as early as 2018, but a more intense increase was only seen in 2020, and they continued to develop into a new research area. The potential gaps indicated by the findings of this study will guide future research and development in the relevant sectors.

INTRODUCTION

In the last decade, artificial intelligence (AI) has become a key tool for transforming business processes, including human resource management (HRM). The integration of AI into HRM systems brings new opportunities and challenges in the areas of recruitment, performance evaluation, employee development and predictive analysis of employee behavior. Despite technological progress, however, many open questions remain about how these changes affect the company's employees themselves, specifically their satisfaction, engagement and trust in management.

Literature overview

The term artificial intelligence has multiple definitions. Depending on the time and level of technological development achieved, different studies have focused on its different aspects of the term artificial intelligence. In the Turin test, it is defined as the ability to perceive intelligence with humans (using electronic output devices) without revealing the identity that they are not human, with the main criterion being binary. Marvin Minky, one of the pioneers of artificial intelligence, defined artificial intelligence as enabling machines to do things that human intelligence does (Jiang et al., 2022). The term AI was originally introduced by John McCarthy at the Dartmouth Artificial Intelligence Summer Research Project in 1956, and is therefore considered the father of artificial intelligence. He argued that AI is the science and engineering of creating intelligent machines, especially intelligent computer programs (McCarthy, 1956). Tambe refers to artificial intelligence as a wide range of technologies that enable the performance of tasks generally required by human cognition, including adaptive decision-making (Tambe et al., 2019). In any case, the current role of artificial intelligence in enterprises is, among other things, to improve the performance and

efficiency of human resource functions by making various management processes agile and accurate (Nankervis et al., 2021). Human capital is very important for an enterprise because it is a differentiating element of the organization, it is an intangible resource that is difficult for competitors to imitate, thus providing a potential competitive advantage to any organization (Kearney & Meynhardt, 2016). Among the various areas that make up the management of human resource management in an enterprise, where artificial intelligence is beginning to be applied are talent search and recruitment, employee training and development, performance analysis, career development, compensation and employee turnover. AI has been implemented in HRM in various organizations using the following techniques: expert systems, fuzzy logic, artificial neural networks, data mining, genetic algorithm, machine learning. Like any technological advancement, AI also brings both advantages and disadvantages, and its application in HRM is no different. The advantages and disadvantages of AI can be assessed from three perspectives: from the employees, the business, and society as a whole. The automation of repetitive and time-consuming tasks allows HR managers to focus on those tasks that add value and require unique skills and abilities (Pillai & Sivathanu, 2020). Reducing or minimizing errors through machine learning also helps managers improve decision-making by providing more information and better processed information. These AI capabilities can be used in time- and labor-intensive processes, such as when recruiting new employees, such as reading many resumes, sorting them and identifying the best candidates, or, for example, when detecting employees who need training (Team, 2019). For businesses as such, integrating AI means greater efficiency and effectiveness, as it streamlines management processes and reduces related costs (Nankervis et al., 2021). It allows for greater candidate reach, as it addresses passive candidates who are not actively looking for work but could be interested in the position (Black & van Esch, 2021). Another important element for companies is improving the possibilities of communication and interaction between employees. Although the implementation of artificial intelligence in a company is expensive,

its use can reduce costs for the company in the processes in which it is applied. Artificial intelligence as a highly effective tool contributes to the acceleration of work processes and thus to the reduction of operating costs. Some research, such as the research of Sweiss & Yamin (2024), has also pointed out that human resource management in a company supported by artificial intelligence contributes to higher employee satisfaction with tasks and also increases the creative engagement of employees. According to them, the key factor is the trust of employees in management and in the working environment, which then allows the use of AI in the company effectively (Sweiss & Yamin, 2024). Of course, the integration of artificial intelligence into business processes also brings with it a number of negative effects. The application of AI can contribute to employee burnout, or employees may worry about their career advancement because they may be replaced by machines, all of which causes anxiety and job insecurity among employees (Kong et al., 2021). As AI technologies become increasingly integrated into organizational environments, employees may face increased emotional exhaustion (Liang et al., 2022). Artificial intelligence can increase technological stress and work demands on employees (Chen et al., 2024). There is also a dehumanization of personal relationships, as some HRM processes can be performed exclusively by machines, such as the use of chatbots (Fritts & Cabrera, 2021). And as technology evolves rapidly, it is essential for employees to be up-to-date on learning and improving their professional skills. This means a constant need for employee training in technological matters. So then, employees develop "technostress", which is a consequence of excessive and continuous use of any type of technology (Malik et al., 2021). There are also significant psychological barriers for employees to implement modern technologies due to the fear of losing their jobs or the need for constant additional training to use such technologies. All of these facts reduce overall employee satisfaction, their work well-being, reduce their work engagement, trust and increase turnover.

Goal and Methodology

In this study, the bibliometric analysis technique was used to analyze publications on the

integration of AI in enterprises and its impact on employee satisfaction, engagement, and trust in human resource management. This technique has been widely used recently to determine the characteristics and trends in publications in a specific research area from a quantitative perspective (Mutlu Avinç & Yıldız, 2025). Bibliometric analysis is more objective and extensive than other types of reviews (Fan et al., 2022). Bibliometric analysis provides scientists with comprehensive coverage of the literature on a selected research topic (Li et al., 2023). Bibliometrics is an important method for evaluating scientific research. Bibliometrics, which takes the external characteristics of scientific literature as the research object, studies the distribution structure, quantitative relationships, and laws of variation of literature (Xie et al., 2020). Bibliometric analysis is a method that can decipher and analyze a certain volume of scientific data (number of citations and publications, occurrence of keywords and topics, etc.) by revealing performance indicators based on quantitative data and performing relational analysis (Donthu et al., 2021). In this study, bibliometric analysis of publications will be performed to find answers to the following main research questions of our study:

RQ1: How did publications develop quantitatively from 2020 to 2025 and what is the citation performance in the analyzed period on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management?

RQ2: What are the co-authorship relationships of the authors of publications on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management?

RQ3: What is the performance and citation performance of countries that publish studies on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management?

RQ4: What is the distribution of publications on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management by WoS categories?

RQ5: What are the most frequently used keywords by authors in publications on AI integration in enterprises and its impact on employee satisfaction, engagement and trust in HRM management, and what are the relationships of keyword co-occurrence by year?

RQ6: What are the most cited publications on AI integration in enterprises and its impact on employee satisfaction, engagement and trust in HRM management?
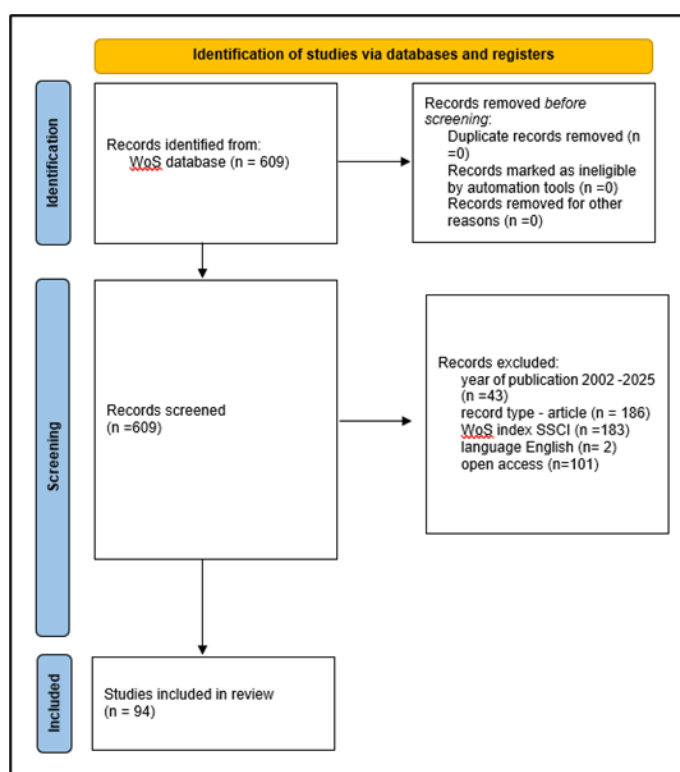
Search Strategy

The primary data source used in this analysis was the Web of Science (WoS) database due to its comprehensive coverage of peer-reviewed scientific literature. The WoS database was preferred as a searchable database in this study due to its advanced search and data extraction capabilities and its wide network of scientific publications covering various topics, categories and indices (SSCI, SCI-Expanded, AHCI, ESCI, etc.). WoS also includes journals scanned by many indices in the social sciences and multidisciplinary fields. In addition, WoS has been the most preferred data source for researchers in review studies conducted in the social sciences in recent years (Yan & Zhiping, 2023). A search string was created to identify relevant articles based on key terms corresponding to the study objective. The search included concepts related to artificial intelligence, satisfaction, engagement, employee trust in HRM management in the enterprise. The initial search was conducted in the WoS database using the query listed in Table 1. Using the advanced search function, two groups of keywords were searched in various combinations. The first group of keywords consisted of words that belong to or are related to the domains AI, chatbot, chatgpt, etc. The second group of keywords contained words that are related to the field of human resources, HRM, employee satisfaction, employee engagement, and employee trust in HRM management in the enterprise. The words were searched in both singular and plural forms as well as in abbreviated and expanded forms using an asterisk. The aim of such a wide range of keywords was to ensure that the scope of the literature was as broad and inclusive as possible.

Table 1: Search string to identify relevant studies in the WoS database

TITLE-ABS-KEY "AI" or "artificial intelligence*" or "generative artificial intelligence*" or "AI mentor*" or "chatbot*" or "AI coach*" or "chatgpt" or "AI integration"
AND
TITLE-ABS-KEY "employee satisfaction" or "human resource management*" or "employee engagement*" or "concerns about jobs displacement" or "trust in HR systems" or "employee well-being*" or "employee trust"

This initial search yielded 609 results. To refine the selection and ensure relevance, inclusion and exclusion filters were used to limit the search to articles published between 2020 and 2025, written in English, available in final versions. In addition, only studies containing precise keywords related to artificial intelligence, satisfaction, engagement, employee trust in HRM in the enterprise, generative AI, chatbots, etc. were considered. After applying these filters, the number of documents was reduced. The selection process took place in several stages (Figure 1).

Figure 1: PRISMA flowchart

*Source: https://www.eshackathon.org/software/PRISMA2020.html, (Haddaway et al., 2022)*

First, a search string was used in the WoS database, taking into account titles, abstracts and keywords. Second, duplicate documents were removed and studies meeting the inclusion and exclusion criteria were filtered. Third, a detailed reading of the selected articles was carried out and those that specifically addressed the impact of artificial intelligence on employee satisfaction, engagement, trust in HRM management in enterprises were selected. Finally, the selected documents were organized in an Excel spreadsheet with relevant information recorded, such as code, title, journal, year of publication, DOI, area of application, AI techniques used and impact on organizational management. Finally, 94 documents were selected for inclusion in the study.

Findings

Distribution of publications and citations by year

The annual distribution and number of publications show the general state of the literature on a particular topic, research trends and pace of development (Xie et al., 2020). The search results in the WoS database after applying the exclusion criteria show that publications on artificial intelligence in human resource management and its impact on employee satisfaction, engagement and trust began at the turn of 2019 and 2020 (Figure 1), therefore we limited our further analysis to the years 2020 to July 2025. The average number of published documents per year is 15.7. It is noteworthy that the number of citations of publications on artificial intelligence, satisfaction, engagement and trust of employees in human resource management in an enterprise has a fluctuating development trend over the analyzed years. The total number of citations of such publications is 2,584, and excluding auto-citations it is 2,464, and the average number of citations per item is 27.49. This increase, which began in 2022, continued significantly until July 2025. Based on the graphical data, it can be concluded that the increasing trend of citations of publications in this area, which has become an important topic in recent years, will continue.
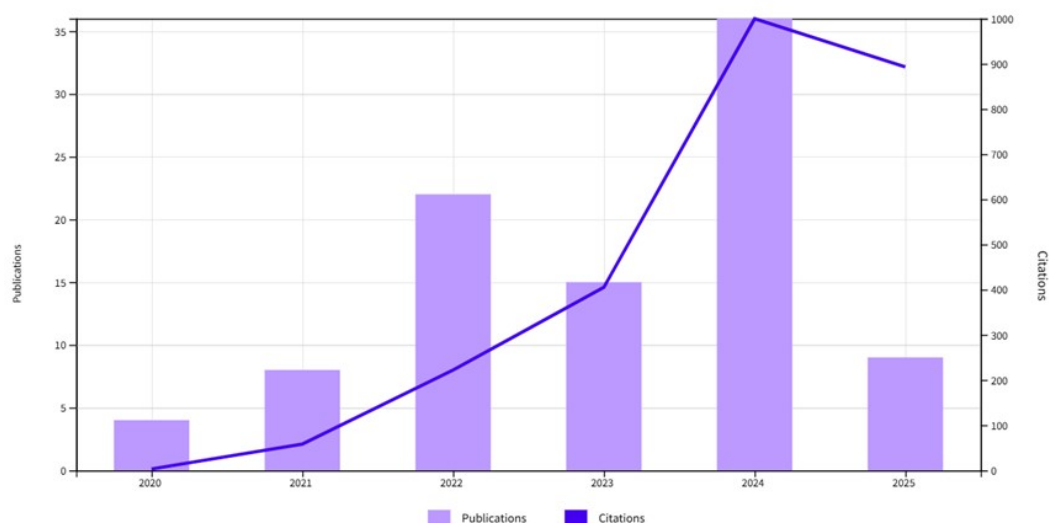

Figure 2: Times Cited and Publications Over Time
Source: https://www.webofscience.com/

WoS publication categories

Each journal included in the WoS core collection is divided into one or more WoS categories. When assigning categories, the subject and scope of the journal must match the scope of the WoS categories. WoS categories are considered an important reference source because they provide a basis for future research and use broad classification criteria (Milojević, 2020). Each journal included in the Web of Science core collection is assigned one or more Web of Science categories. A journal can have up to 6 categories assigned to it (https://support.clarivate.com/ScientificandAcademicResearch/s/article/Web-of-Science-Core-Collection-Web-of-Science-Categories?language=en_US).
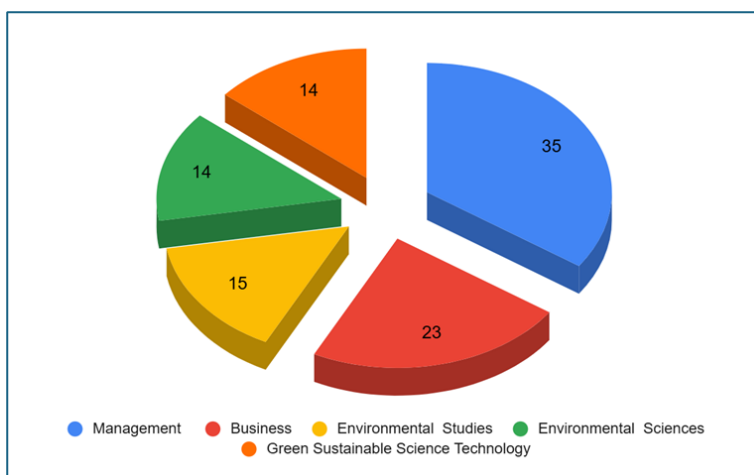
Figure 3: Web of Science Categories

Source: https://www.webofscience.com/

Figure 3 shows the WoS categories with fourteen or more publications in a pie chart. The dominant categories for the articles included in our analysis are business and management. Other important WoS categories are environmental sciences, environmental studies, and green sustainable science technology. It should be noted here that the published papers are multidisciplinary in nature.

Analysis of the most frequently cited authors and co-authorship

Citation counts are considered an objective quantitative indicator used to measure the performance and success of scientific publications, authors and institutions. For this reason, citation counts are often used in bibliometric analysis studies to reveal the performance of elements in a given field. The citation counts of the top 10 authors who received the most citations in publications on artificial intelligence, satisfaction, engagement and trust of employees in the management of human resources in the enterprise are shown in Table 2, which also shows us the ten most cited countries in the world.

Table 2: Most cited author and countries/regions

Authors	Record count	Countries/regions	Record count	number of publications	ANC* according to publication
Malik, A.	19	Peoples China	474	24	19,75
Budhwar, P.	10	USA	228	9	25,33
Jetha, A.	10	England	186	23	8,09
Wu, TJ.	10	India	178	7	25,43
Lim, WM.	9	Australia	154	15	10,27
Zhang, L.	9	Italy	108	5	21,6
Ali, I.	8	Germany	90	2	45
Gignac, MAM.	8	France	85	7	12,14
Liu, X.	8	Malaysia	84	7	12
Chowdhury, S.	7	Spain	84	1	84

Source:https://www.webofscience.com/wos/woscc/analyze-results/bbf28e43-4ba9-44e9-a258-4012a56df544-017302f10c, https://www.webofscience.com/wos/woscc/analyze-results/ff9d8777-c323-4046-ac61-b32647864c01-01733aa470,

* ANC= average number of citations

When examining the data on the number of citations from the 10 most cited countries, it is clear that China, which is in first place, is far ahead of the USA, which is in second place with the closest number of citations. Among the 10 most cited countries, European countries are represented by 50% exactly as countries from other continents. And despite the same ratio of countries, the number of citations of publications published in European countries is much smaller, representing only 33.01%, than in Asian and other countries, where this share is 66.91%. When examining the data on ANC values, the highest ANC values are achieved by Spain, India and the USA, despite the fact that they published fewer articles than other countries (China, England or Australia). This means that each publication published in these three countries receives more citations, which is then expressed through the ANC indicator (ANC is calculated by dividing the total number of citations by the total number of publications).

The following table shows the five most cited articles. Article citations show the information output that is referred to by other publications. Citation analysis allows us to determine how many times a document is cited by other publications, and based on this, an impact assessment can be made (Ercan et al., 2025). The journals in which the articles are published and their indexes are also listed as other important criteria in assessing the impact of publications.

The most cited article in this field was published in 2023 and received a total of 272 citations, and its average citation value per year is the highest compared to other articles. The most frequently cited publications discuss topics such as:
• what are the key organizational resources needed for the successful adoption and implementation of artificial intelligence in human resource management in an enterprise (Chowdhury et al., 2023),
• what is the potential impact of artificial intelligence on employees, whether there is a relationship between artificial intelligence and burnout at work (Kong et al., 2021),
• what is the impact of the introduction of artificial intelligence on employee engagement and trust in the work environment (Braganza et al., 2021),
• analyzing the interaction between robots powered by artificial intelligence and human workers from the perspective of human resource management (Arslan et al., 2021),
• how employee experiences with human resource management practices mediated by

artificial intelligence affect employee attitudes and behavior (Malik et al., 2022).

Table 3: Most cited publications and author

Publications	citations		magazin
	average per year	total	magazin index
Chowdhury, S;Dey, P;(...);Truong, L: *Unlocking the value of artificial intelligence in human resource management through AI capability framework* (2023)	68	272	Human resources mangement review / SSCI
Kong, HY;Yuan, Y;(...);Wang, KP: *Influences of artificial intelligence (AI) awareness on career competency and job burnout* (2021)	38,2	191	International journal of contemporary hospitality management/ SSCI
Braganza, A;Chen, WF;(...);Sap, S *Productive employment and decent work: The impact of AI adoption on psychological contracts, job engagement and employee trust* (2021)	34,2	171	Journal of business research / SSCI
Arslan, A;Cooper, C;(...);Ali, I: *Artificial intelligence and human workers interaction at team level: a conceptual assessment of the challenges and potential HRM strategies* (2022)	24	120	Manpower international magazine / SSCI
Malik, A;Budhwar, P;(...);Srikanth, NR *May the bots be with you! Delivering HR cost-effectiveness and individualised employee experiences in an MNE* (2022)	18,5	111	International journal of human resource management/ SSCI

Source:https://www.webofscience.com/wos/woscc/citation-report/ebd2833e-c1e9-499e-b7e3-d6980a8d9da9-0172f33811

By setting the minimum number of publications and citations (minimum publications per author 1, minimum citations per author 1) in the co-authorship analysis using the VOSviewer software tool, only 299 authors out of 318 met the given criteria. Subsequently, in our co-authorship analysis, the total strength of co-authorship ties of 299 authors of publications on artificial intelligence, satisfaction, engagement and trust of employees in human resource management in a company with other authors was calculated. The largest set of connected items consisted of 38 items (Figure 4). The resulting map consisted of a total of 7 clusters and a total number of connections of 96. These clusters also include the most cited authors such as Malik or Chowdhury.
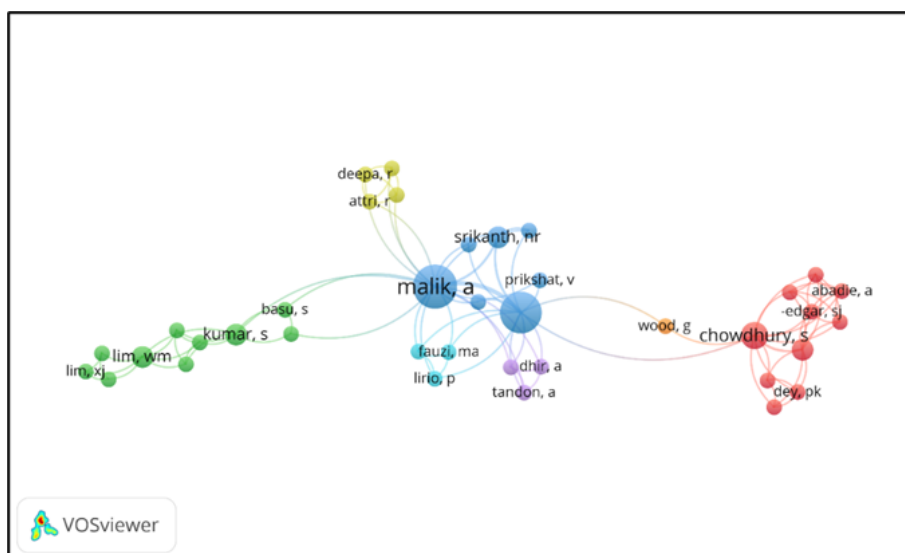
Figure 4: Co-authorship analysis
Source: processed using the VOSviewer software tool

The map shows a complex network of co-authorship, where the author Malik, A. plays a key role in connecting research groups. Malik, A. has a large node (blue) and is strongly connected (19 links) to several authors, making him a central figure in the network. The author Chowdhury, S. is also a major author, but with fewer links (11 links) than Malik. The third most important author is Lim, WM, who belongs to another smaller cluster (green), in which collaborations are less widespread. The analysis suggests that authors like Malik and Chowdhury may be important players in shaping future research directions in the field.

Most productive countries and number of publications

Among a total of 49 countries, the countries with the highest number of publications on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM are China (24), the United Kingdom (23) and Australia (15). These countries are followed by the United States with nine publications;

France, India and Malaysia with seven publications; Finland, the Netherlands, Italy and the Republic of Korea with five publications; Canada, Russia, Poland and Scotland with four publications; Japan, Northern Ireland, Croatia, Portugal, Saudi Arabia, Slovenia, South Africa and Turkey with three publications; and Vietnam, Romania, Pakistan, Norway, Kazakhstan, Indonesia, Germany, Denmark and the Czech Republic with two publications. Seventeen countries have one publication each on this topic. 24 of these countries (Portugal, Italy, Spain, United Kingdom, Romania, France, Netherlands, Germany, Czech Republic, Finland...) come from the European continent, sixteen countries (China, Japan, Singapore, Vietnam, Malaysia, Thailand, Pakistan, Republic of Korea, Bangladesh, United Arab Emirates, Cyprus, Indonesia, India, Saudi Arabia...) come from the Asian continent, three countries (Russia, Turkey and Kazakhstan) come from the Asian/European continent and two countries (Morocco and South Africa) come from the African continent.
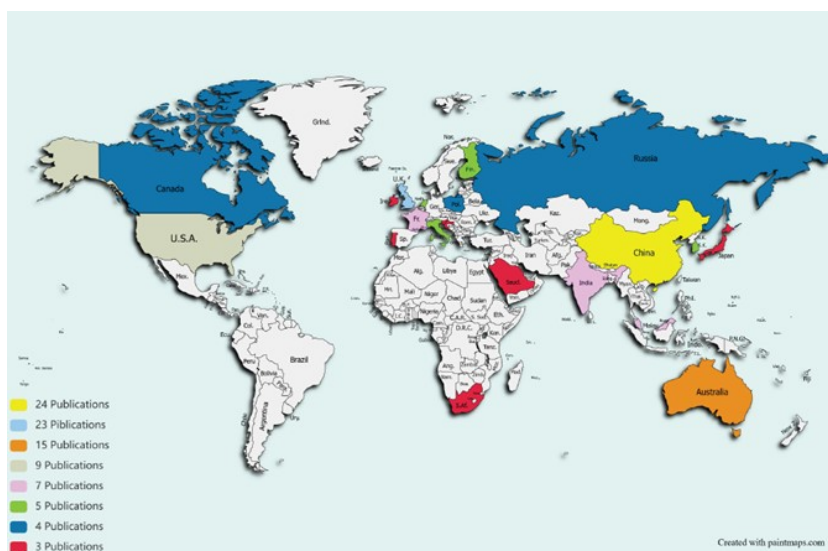
Figure 5: Map of the most productive countries in the world
Source: map created via https://paintmaps.com/map-charts/293/World-map-chart

One country (Peru) is from the South American continent, one (Australia) from Oceania, and two (United States and Canada) from North America. Therefore, it can be stated that the frequency of publications in the region is highest in European and Asian countries.

Most used keywords

Keywords are technical terms that reflect the main content of the article. Keyword analysis helps to identify important and current topics in a particular research area (Mutlu Avinç & Yıldız, 2025). Therefore, we decided that keyword frequency analysis would be useful in understanding the significant topics in publications on artificial intelligence in human resource management and its impact on employee satisfaction, engagement and trust.
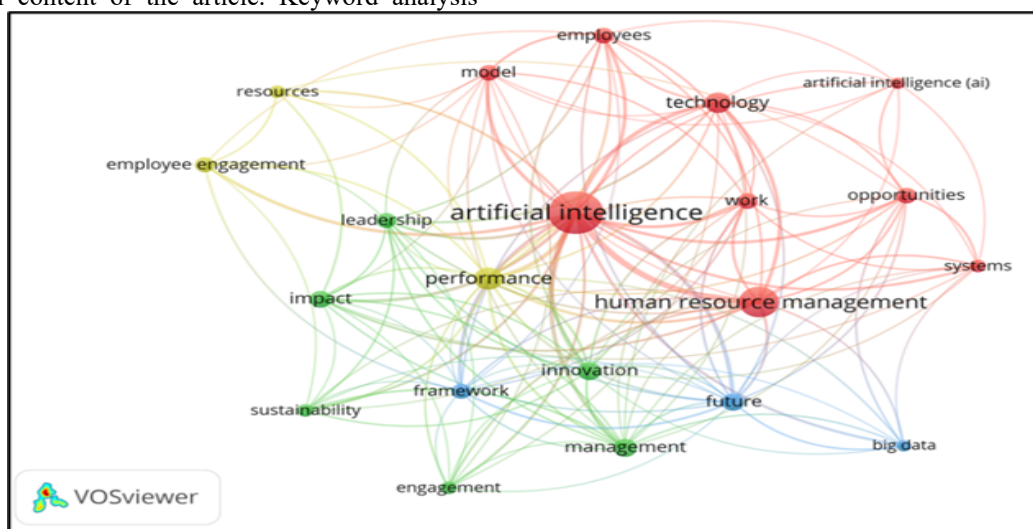
Figure 6: Visualization of relationships between keywords - thematic areas of research
Source: processed using the VOSviewer software tool

Figure 6 shows us an analysis of thematic areas and their connections. It allows us to understand the thematic structure, i.e. how keywords are grouped and what areas of research exist. Our graph contains four clusters (red, green, blue and yellow) i.e. four thematic areas of research. The red cluster, in which the central term artificial intelligence is connected to other cluster terms such as employees, model, technology, work, human resource management, opportunities, systems, points to the thematic area of research on the integration of artificial intelligence into human resource management processes in a company, e.g. employee behavior modeling, work automation, technological innovation. The second significant cluster is the green cluster, where the main terms are innovation and impact and these are connected to other cluster keywords leadership, sustainability, management, engagement. The thematic area of research within this cluster is directed at how the integration of AI in a company affects the leadership of people in a company, the evaluation of the performance of company employees, the innovation process and the innovative activity of employees in a company. The yellow cluster, which is significantly smaller than the previous two and also further from the center of the red cluster, and whose central concept is performance and is linked to the keywords employee engagement and resources. Thematically, this cluster examines how technologies affect employee motivation, satisfaction and involvement in the company. The last blue cluster, where the keywords framework, future, big data are grouped, thematically deals with the concepts of the future of HR, the use of big data and frameworks for the implementation of AI.
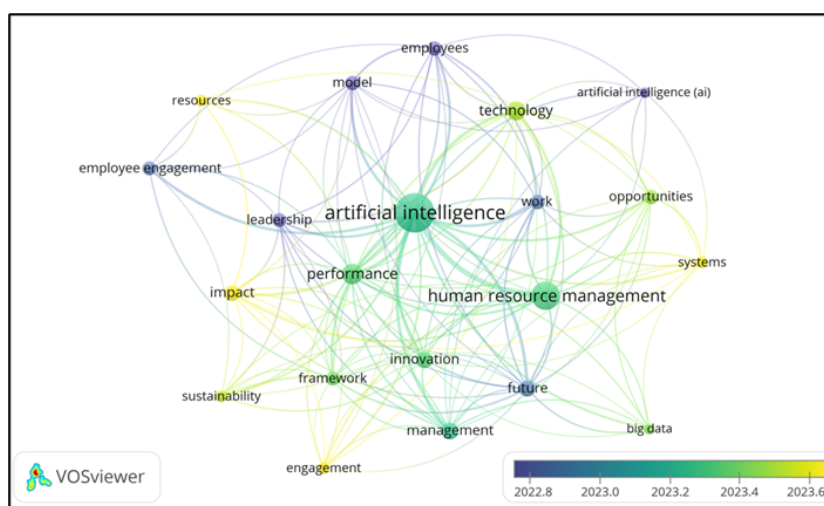
Figure 7: Visualization of network relationships between keywords with timeline
Source: processed using the VOSviewer software tool

Artificial intelligence and human resource management are central concepts in our keyword analysis. The graph in Figure 7 shows that these keywords are closely related and form the basis of research. These concepts are connected, which indicates that they are often studied together, for example in the context of the use of AI in HR processes. The yellow connections in the map indicate new emerging topics (systems, opportunities, engagement) and future research directions. These terms have started to appear more frequently in articles recently, which may indicate new research directions such as AI and new opportunities in HR systems and employee engagement. Traditional topics such as leadership and employee engagement (blue color) are still important, but their research interest is shifting slightly.

Discussion

The aim of our study was to summarize the current state and research trends on the

integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management by analyzing existing research findings. Our study used bibliometric analysis to assess the impact of the integration of AI in enterprises on employee satisfaction, engagement and trust in HRM management, as well as to provide a comprehensive picture of the current state of scientific production. The study examined the development of publications on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management based on the WoS database for the period 2020 to 2025. The analyses performed found that the first studies on the topic began to be published in 2018, but it was not until 2020 that we recorded a significant increase in the number of publications and citations. This means that the interest in integrating AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management has been gaining importance in recent years, which may be the reason why research has recently focused on this topic. Business and management, environmental sciences, environmental studies and green sustainable science technology are the WoS categories in which studies on this topic are mostly published. Therefore, we can conclude that these categories in the WoS database are the largest source of academic publications on integrating AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management. The most cited article is "Uncovering the value of artificial intelligence in HRM through an AI capabilities framework" and the authors of this article are Chowdhury, Soumyadeb; Dey, Prasanta; Edgar, Sian Joel; Bhattacharya, Sudeshna; Rodriguez-Espindola, Oscar; Abadie, Amélie; Truong, Linh. This article was published in 2023 in the journal "Human resources management review", which is indexed by SSCI in the Q1 quartile. Through analysis, we found that the most cited articles on this topic are published in journals that are indexed by SSCI in the Q1 or Q2 quartile. Therefore, it can be concluded that publishing in indexed journals can increase the visibility of research studies on the analyzed topic. Among all 49 countries that published articles on the analyzed topic in the analyzed period, China, the United Kingdom and Australia are the most productive. The analyses show that the number of publications on this topic has increased recently, especially in Asian countries, among which China stands out in terms of the total number of citations and India stands out in terms of the average number of citations per publication. The USA and Italy are other countries that attract attention in terms of the average number of citations per publication. When examining the network of co-authors, we found that countries such as the United Kingdom, China, the USA and Australia are the countries with the strongest relationships and ties in the field of co-authorship. This means that we should consider these countries in terms of cooperation in the field of co-authorship. Collaboration between authors from different countries is important for the international development of the literature on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM. This data is particularly important for researchers and authors of publications when planning collaborations for future research. In connection with current issues about the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM, international and interdisciplinary cooperation can be considered desirable and necessary for the successful development of this scientific field. Keywords are one of the important indicators that provide an idea of the content of research in a certain field. The frequency and co-occurrence of keywords reveal research trends and the main focus of research. Analyses of the occurrence and co-occurrence of keywords in publications in our analysis show that, in addition to the main keywords (artificial intelligence and human resource management), keywords such as leadership, sustainability, management, engagement, framework, future, big data are frequently used in publications. Changes in the field of research on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM will continue, as artificial intelligence technologies are constantly evolving. Therefore, it is possible that the nature and content of research in this area will change as technological developments continue. This study can be considered an important resource for researchers in terms of providing further theoretical information on this topic and laying the foundation for future research. The most cited studies and authors,

countries, keyword occurrences and co-occurrence trends in publications on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management provide an idea of the current state of the literature. Theoretical development will continue with new academic studies, and the task of integrating AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management will become better understood. This study will help both novice researchers who are new to academic research and experienced authors to better understand the theoretical framework of this topic. Thanks to the suggestions developed based on the findings of this study, it will be possible to increase national and international collaboration and to explore this topic on an interdisciplinary theoretical basis. In this way, awareness of studies on this topic in all fields of science can be increased. The results obtained from this study can provide researchers with quantitative information on the current state of publications on the topic of integrating AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management and can form the basis for further research. However, this study has some limitations. Only publications from the WoS database were included in this study, and other databases were not included. More detailed analyses of this topic can be performed in the future by including other databases. More detailed analysis can also be applied by combining VOSviewer with other bibliometric analysis software (R 4.4.2 Bibliometrix, Citespace 6.4.R1, etc.).

Conclusion

This research provides a bibliometric review of the literature on the integration of AI in enterprises and its impact on employee satisfaction, engagement and trust in HRM management. The results of the analysis show that academic interest in this area has been increasing recently, as evidenced by the increase in publications and citations. The diversity of countries represented by the research participants highlights the importance of international cooperation and knowledge sharing in the field of AI integration in enterprises and its impact on employee satisfaction, engagement and trust in HRM management.

References

Arslan, A., Cooper, C., Khan, Z., Golgeci, I., & Ali, I. (2021). Artificial intelligence and human workers interaction at team level: A conceptual assessment of the challenges and potential HRM strategies. International Journal of Manpower, 43(1), 75–88. https://doi.org/10.1108/IJM-01-2021-0052

Bamel, U., Kumar, S., Lim, W. M., Bamel, N., & Meyer, N. (2022). Managing the dark side of digitalization in the future of work: A fuzzy TISM approach. Journal of Innovation & Knowledge, 7(4), 100275. https://doi.org/10.1016/j.jik.2022.100275

Bhatt, P. and Muduli, A. (2023), "Artificial intelligence in learning and development: a systematic literature review", European Journal of Training and Development, Vol. 47 No. 7/8, pp. 677-694. https://doi.org/10.1108/EJTD-09-2021-0143

Black, J. S., & van Esch, P. (2021). AI-enabled recruiting in the war for talent. Business Horizons, 64(4), 513–524. https://doi.org/10.1016/j.bushor.2021.02.015

Braganza, A., Chen, W., Canhoto, A., & Sap, S. (2021). Productive employment and decent work: The impact of AI adoption on psychological contracts, job engagement and employee trust. Journal of Business Research, 131, 485–494. https://doi.org/10.1016/j.jbusres.2020.08.018

Do, H., Chu, L. X., & Shipton, H. (2025). How and when AI-driven HRM promotes employee resilience and adaptive performance: A self-determination theory. Journal of Business Research, 192, 115279. https://doi.org/10.1016/j.jbusres.2025.115279

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. https://doi.org/10.1016/j.jbusres.2021.04.070

Ercan, F., Sayın, K., Dalgın, T., & Gençer, K. (2025). A Bibliometric and Systematic Review of Publications on Augmented Reality in Sustainable Tourism. Sustainability, 17(4), Article 4. https://doi.org/10.3390/su17041508

Fan, D., Breslin, D., Iszatt-White, M., & Callahan, J. (2022). Advancing Literature Review Methodology through Rigour, Generativity, Scope and Transparency. International Journal of Management Reviews, 24. https://doi.org/10.1111/ijmr.12291

Fritts, M., & Cabrera, F. (2021). AI recruitment algorithms and the dehumanization problem. Ethics and Information Technology, 23(4), 791–801. https://doi.org/10.1007/s10676-021-09615-w

Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and Open Synthesis. Campbell Systematic Reviews, 18(2), e1230. https://doi.org/10.1002/cl2.1230

Chen, N., Zhao, X., & Wang, L. (2024). The Effect of Job Skill Demands Under Artificial Intelligence Embeddedness on Employees' Job Performance: A Moderated Double-Edged Sword Model. Behavioral Sciences, 14(10), 974. https://doi.org/10.3390/bs14100974

Chowdhury, S., Dey, P., Joel-Edgar, S., Bhattacharya, S., Rodriguez-Espindola, O., Abadie, A., & Truong, L. (2023). Unlocking the value of artificial intelligence in human resource management through AI capability framework. Human Resource Management Review, 33(1), 100899. https://doi.org/10.1016/j.hrmr.2022.100899

Jiang, Y., Li, X., Luo, H., Yin, S., & Kaynak, O. (2022). Quo vadis artificial intelligence? Discover Artificial Intelligence, 2(1), 4. https://doi.org/10.1007/s44163-022-00022-8

Kearney, C., & Meynhardt, T. (2016). Directing Corporate Entrepreneurship Strategy in the Public Sector to Public Value: Antecedents, Components, and Outcomes. International Public Management Journal, 19(4), 543–572. https://doi.org/10.1080/10967494.2016.1160013

Kong, H., Yuan, Y., Baruch, Y., Bu, N., Jiang, X., & Wang, K. (2021). Influences of artificial intelligence (AI) awareness on career competency and job burnout. International Journal of Contemporary Hospitality Management, 33(2), 717–734. https://doi.org/10.1108/IJCHM-07-2020-0789

Li, J., Wu, T.-J., Wu, Y., & Goh, M. (2023). Systematic literature review of human-machine collaboration in organizations using bibliometric analysis. Management Decision, 61, 2920–2944. https://doi.org/10.1108/MD-09-2022-1183

Liang, X., Guo, G., Shu, L., Gong, Q., & Luo, P. (2022). Investigating the double-edged sword effect of AI awareness on employee's service innovative behavior. Tourism Management, 92, 104564. https://doi.org/10.1016/j.tourman.2022.104564

Liu, X., & Li, Y. (2025a). Examining the Double-Edged Sword Effect of AI Usage on Work Engagement: The Moderating Role of Core Task Characteristics Substitution. Behavioral Sciences, 15(2), 206. https://doi.org/10.3390/bs15020206

Liu, X., & Li, Y. (2025b). Examining the Double-Edged Sword Effect of AI Usage on Work Engagement: The Moderating Role of Core Task Characteristics Substitution. Behavioral Sciences, 15(2), 206. https://doi.org/10.3390/bs15020206

Malik, A., Budhwar, P., Patel, C., & Srikanth, N. R. (2022). May the bots be with you! Delivering HR cost-effectiveness and individualised employee experiences in an MNE. The International Journal of Human Resource Management, 33(6), 1148–1178. https://doi.org/10.1080/09585192.2020.1859582

McCarthy, J. (1956). Measures of the value of information. Proceedings of the National Academy of Sciences, 42(9), 654–655. https://doi.org/10.1073/pnas.42.9.654

Milojević, S. (2020). Practical method to reclassify Web of Science articles into unique subject categories and broad disciplines. Quantitative Science Studies, 1(1), 183–206. https://doi.org/10.1162/qss_a_00014

Mutlu Avinç, G., & Yıldız, A. (2025). A bibliometric and systematic review of scientific publications on metaverse research in architecture: Web of science (WoS). International Journal of Technology and Design Education, 35(2), 825–849. https://doi.org/10.1007/s10798-024-09918-1

Nankervis, A., Connell, J., Cameron, R., Montague, A., & Prikshat, V. (2021). 'Are we there yet?' Australian HR professionals and the Fourth Industrial Revolution. Asia Pacific Journal of Human Resources, 59(1), 3–19. https://doi.org/10.1111/1744-7941.12245

Pei, X., Guo, J., & Wu, T.-J. (2025). How Ambivalence Toward Digital–AI Transformation Affects Taking-Charge Behavior: A Threat–Rigidity Theoretical Perspective. Behavioral Sciences, 15(3), 261. https://doi.org/10.3390/bs15030261

Sweiss, M., & Yamin, M. (2024). The Role of AI-Enabled Human Resource Practices Towards Task Satisfaction and Employee Creative Willingness. SAGE Open, 14. https://doi.org/10.1177/21582440241281618

Tambe, P., Cappelli, P., & Yakubovich, V. (2019). Artificial Intelligence in Human Resources Management: Challenges and a Path Forward. California Management Review, 61(4), 15–42. https://doi.org/10.1177/0008125619867910

Team, B. E. (2019, november 7). Artificial Intelligence in HR Management—What Can We Expect? BOSS Magazine. https://thebossmagazine.com/ai-hr-management/

Wang, S., Lim, W. M., Cheah, J.-H., & Lim, X.-J. (2025). Working with robots: Trends and future directions. Technological Forecasting and Social Change, 212, 123648. https://doi.org/10.1016/j.techfore.2024.123648

Xie, H., Zhang, Y., Wu, Z., & Lv, T. (2020). A Bibliometric Analysis on Land Degradation: Current Status, Development, and Future Directions. Land, 9(1), 28. https://doi.org/10.3390/land9010028

Yan, L., & Zhiping, W. (2023). Mapping the Literature on Academic Publishing: A Bibliometric Analysis on WOS. SAGE Open, 13(1), 21582440231158562. https://doi.org/10.1177/21582440231158562

Zhang, Q., Liao, G., Ran, X., & Wang, F. (2025). The Impact of AI Usage on Innovation Behavior at Work: The Moderating Role of Openness and Job Complexity. Behavioral Sciences, 15(4), 491. https://doi.org/10.3390/bs15040491

Zhao, J., Hu, E., Han, M., Jiang, K., & Shan, H. (2023). That honey, my arsenic: The influence of advanced technologies on service employees' organizational deviance. Journal of Retailing and Consumer Services, 75, 103490. https://doi.org/10.1016/j.jretconser.2023.103490

Zheng, J., & Zhang, T. (2025). Association Between AI Awareness and Emotional Exhaustion: The Serial Mediation of Job Insecurity and Work Interference with Family. Behavioral Sciences, 15(4), 401. https://doi.org/10.3390/bs15040401

Contact

Katarína, Kráľová, Ing., Ph.D.
Faculty of Social and Economic Relations
Alexander Dubček University in Trenčín
Študentská 3. 911 50 Trenčín
Slovak Republic
e-mail: katarina.kralova@tnuni.sk