

# 1 Exploring the Impact of Artificial Intelligence on Recruitment Fairness and Candidate 2 Experience in Large Companies

## 3 Abstract

4 The paper primarily discusses how AI is gradually influencing the process of recruitment in terms  
5 of fairness and candidate experience in big companies through bibliometrics of 1,000 peer-  
6 reviewed articles indexed in Scopus and Web of Science. To perform the analysis, VOSviewer  
7 and Biblioshiny have been used to visualize and make graphical representations of the trends in  
8 published works, influential authors and journals, high-impact countries, and the field's thematic  
9 structure. The results reveal that since the year 2018 there has been a considerable increase in  
10 research activity which can be attributed to the growing introduction of AI-driven recruitment  
11 tools and to the rising anxieties regarding fairness, bias, transparency, and accountability. The  
12 highly cited works from 2016 to 2021 have created the intellectual core of the field and have been  
13 dealing with the topics like algorithmic discrimination, ethical governance, and socio-technical  
14 implications of AI. The keywords and bibliographic coupling point out four prominent thematic  
15 areas, namely, EQ and bias of algorithms, technical and methodological advancements, HRM and  
16 recruitment applications, and broader managerial or contextual themes. The field is dynamic in  
17 terms of growth but still, it is highly fragmented and there is next to no empirical research on how  
18 candidates view AI-mediated hiring. The study reveals essential issues related to candidate  
19 experience, cultural diversity, human-AI decision-making interactions, and governing procedures.  
20 The controversy, by uncovering the knowledge structure, not only gives a summarized view of  
21 ongoing studies but also reveals new topics and establishes future research paths that will  
22 facilitate the development of AI recruitment systems that are more transparent, equitable, and  
23 centered around humans.

24 **Keywords:** Artificial Intelligence, Recruitment Fairness, Human Resource Management,  
25 Bibliometric Analysis

## 26 Introduction

27 The adoption of artificial intelligence (AI) gradually across all fields has led to significant  
28 changes in the structure of the workplace, decision-making, and technology interaction between  
29 employees. HRM has been the most affected sector and, consequently, has come under the

30 spotlight as the most visible and fastest-changing domain. Regularly, the studies conducted  
31 around Industry 4.0 highlight HR's crucial role in digital transformation, human-technology  
32 partnerships, and preparing the organization for continuous technological advancement (Dhanpat  
33 et al., 2020; Hecklau et al., 2016). The moment companies implement AI applications for  
34 predictive analytics, performance evaluation, talent development, and workflow optimization,  
35 recruiting is to be one of the first and most favored areas of application. This is partly due to the  
36 tremendous amount of applicant data that online platforms generate, the efficiency that AI  
37 promises, and the increasing management focus on making the talent acquisition process less  
38 complicated (Ghedabna et al., 2024).

39 The early theoretical studies regarded AI as the main factor in the transition of HRM  
40 toward data-driven practices. Strohmeier and Piazza (2015) point out that the implementation of  
41 AI techniques, from expert systems to machine learning, can enhance decision quality, lessen the  
42 administrative burden, and improve predictive accuracy in HR functions. Jain (2018) enlarges this  
43 view, claiming that AI enables HR professionals to leave the handling of the operational  
44 processes and take on more strategic roles which will lead to the implementation of evidence-  
45 based decision-making and targeted workforce planning. Recent papers highlight that AI has  
46 already moved way beyond its initial role of a mere automator and now includes intelligent  
47 resume parsing, algorithmic candidate matching, and job success predictive models as comprising  
48 of its functions (Gupta, 2024; Jia et al., 2018). Thus, these advancements together have formed AI  
49 to be an increasingly powerful player in the modern hiring ecosystems.

50 Recruitment, specifically, has become the center of attention for both academic research  
51 and industry trials. Geetha and Bhanu (2018) consider AI recruitment as a manual screening  
52 phase that gradually shifts to an automated one, thus speeding up the hiring process and  
53 increasing the precision of the matches. The rapid digital expansion of applicants and the use of  
54 advanced algorithms allow the firms to do the screening for thousands of candidates very quickly.  
55 AI-based recruitment tools have been proved to be popular in the emerging markets by Islam et al.  
56 (2022), they find organizations are using them to handle large numbers of applicants and also to  
57 combat skill shortages. Ghedabna et al. (2024), on the other hand, also note that the application of  
58 AI would be wide-ranging i.e. recruitment, performance management, and management of  
59 employee development, thus, reinforcing the technology's role as a transformative HRM tool.

60

61           Nevertheless, the more AI takes over recruitment processes, the more the issues of  
62 fairness, discrimination, transparency, and candidates' experience have to be addressed. The risk  
63 of creating the so-called algorithmic bias, either through unbalanced training data, poor model  
64 design, or unfair performance labels, is a huge factor raising ethical and legal issues. Researchers  
65 point out that if not properly supervised, the advanced screening systems could help in the  
66 reproduction or even the amplification of the existing social inequalities (Raisch & Krakowski,  
67 2021). Johnson et al. (2022) argue that the lack of clarity around many AI systems makes it  
68 difficult to assign responsibility, which is particularly true in the context of public sector HRM  
69 where accountability and fairness are critical. Such concerns are also present in the private sector  
70 hiring process, where among other things, candidates are increasingly insisting on having  
71 transparent and fair evaluation processes.

72           The recruiters' reactions to AI recommendations have a significant impact on the overall  
73 decision. According to Lacroux and Martin-Lacroux (2022), the recruiters' reliance on the  
74 recommendations is only partial even when the algorithms with high performance are the source  
75 of the recommendations. The recruiters can either reject or accept AI recommendations, based on  
76 their own discretion regarding the algorithmic outputs, or they can view the system as a supporter  
77 of their decision rather than a maker of it. The report of the researchers points to a very  
78 complicated interplay of factors like human judgment, algorithmic authority, and organizational  
79 norms, with trust and perceived validity as the key reasons for adoption. This situation of  
80 reluctance is what Raisch and Krakowski (2021) describe as the automation-augmentation  
81 paradox: organizations use AI for automating decision-making but still very much rely on human  
82 oversight for risk minimization, legitimacy maintenance, and context-sensitive judgment.

83           Legal and regulatory factors further complicate AI's hiring integration. Santoso et al.  
84 (2024) point out that the labor laws are being forced to adapt due to the technological changes  
85 since they are overseeing the transformations of work relations that are AI-driven. Legal  
86 modifications concerning equal employment opportunity, algorithmic accountability, and data  
87 protection, among others, call for hiring systems that are transparent, auditable, and fair. If hiring  
88 is to be considered legal in parts where algorithmic processes are involved, then these legal  
89 aspects would need to be aligned with the organizations' main concerns which are about employer

90 branding and candidate experience, as job seekers are becoming more and more critical of the  
91 fairness and humanity of the recruitment process.

92 The literature further indicates that even though there is an increasing interest in AI-  
93 enabled HRM, empirical insights are still very much scattered across the various disciplines.  
94 According to Tambe et al. (2019), the research on AI in HRM is divided among the areas of  
95 management, information systems, psychology, public administration, and data science. This  
96 situation often leads to conceptual disagreements and a lack of cumulative knowledge. Their  
97 analysis identifies challenges such as skill gaps, lack of transparency in the use of algorithms, and  
98 moral issues, and thus, calls for a more organized research agenda. Johnson et al. (2022) support  
99 this view and are able to demonstrate that public-sector research has its own major concerns over  
100 justice, legitimacy, and public accountability, which are the very aspects that are usually  
101 underrepresented in the literature on the private sector.

102 This division of studies can be most clearly seen in the issues of recruitment fairness and  
103 candidate experience. While a lot of research talks about the operational advantages of AI in the  
104 recruitment process, such as speed, efficiency, and reduction of workload—very little is known  
105 about its impact on the perceptions of fairness, trust, and attractiveness of the organization.  
106 Candidate experience research can be considered a far more neglected area when compared to the  
107 large and growing area of AI technical capability studies. Geetha and Bhanu (2018) do concede  
108 the point of AI's efficacy but give only a little attention to the candidates' perceptions. Islam et al.  
109 (2022) point out that although AI tools assist the organizations in managing large applicant pools,  
110 the issues of fairness and transparency might keep the qualified candidates away from applying.  
111 The same can be said about the recruiter-focused studies (Lacroux& Martin-Lacroux, 2022)  
112 where the behavioral tensions are revealed but the candidates' understanding of these algorithmic  
113 decisions is not fully explored.

114 The disparity between focusing on operations and gaining experiences has resulted in a  
115 major gap in the research. The discussion around AI in HRM covering efficiency, technological  
116 basis, and organizational impact has been thoroughly done. However, the area of fairness and  
117 candidate experience in recruitment has still not been fully researched. Besides, most of the  
118 existing literature depends on theoretical reasoning, case studies, or small-scale empirical  
119 research thus providing a very limited insight into the movements of academic attention over time,

120 the dominating themes of the field, and the areas with research gaps. A bibliometric approach is  
121 the right method to close this gap. Through the analysis of publishing trends, and the  
122 determination of key authors and journals along with the charting of topic clusters, bibliometric  
123 analysis presents a comprehensive view of the progress in that field. This type of analysis assists  
124 in pointing out the direction of past AI in HRM research particularly in the areas of recruitment  
125 fairness and candidate experience, the current focus of scholars, and the new lines of thought  
126 coming up. It also showcases the less explored areas, the overlooked methodologies, and the  
127 potentials for further inquiries.

128 The interest in AI-enabled recruitment has been growing among academicians as well as  
129 practitioners. However, there is still no large-scale bibliometric analysis uncovering the  
130 intellectual landscape of AI, fairness, and candidate experience within HRM. The reviews  
131 existing so far are generally narrative or conceptual and thus have no structured evidence on  
132 publication growth, citation patterns, influential contributions, or thematic mapping. As  
133 organizations are continuously integrating AI-powered hiring solutions, it is necessary to  
134 recognize the research field's evolution in order to direct responsible innovation, regulate the  
135 development, and do empirical work in the future. Consequently, the current study wants to fill  
136 this void by carrying out an in-depth bibliometric study of the intersection of AI, HRM,  
137 recruitment fairness, and candidate experience. The objectives are to illustrate publication trends,  
138 spot prominent authors, journals, and countries, analyze the field's intellectual and thematic  
139 structure, and indicate the future research directions. Thus, the research provides a unified view  
140 on how the scholarly work in this domain has evolved and what areas still require more research.

## 141 **Methodology**

142 In this study, a bibliometric method was employed to monitor the development of AI research in  
143 the HRM area, particularly concerning recruitment fairness and candidate experience. Data were  
144 collected from the two major academic databases, Scopus and Web of Science (WoS), thereby  
145 guaranteeing the full coverage of peer-reviewed literature in the disciplines of management,  
146 social sciences, and technology. The search was conducted by applying the following query to  
147 titles, abstracts, and author keywords:

148 ("artificial intelligence" OR "machine learning" OR "algorithmic decision making" OR  
149 "automation" OR "algorithmic hiring" OR "AI recruitment" OR "AI hiring") AND ("human

150 resource management" OR HRM OR recruitment OR "talent acquisition"OR "employee  
151 selection" OR "candidate screening")AND(fairness OR bias OR "candidate experience" OR  
152 transparency OR discriminationOR "ethical hiring")

153 No specific time limit was set; to illustrate the development of the field, all years till 2025 were  
154 taken into account. A total of 2,438 records were generated by the joint search in Scopus and WoS.  
155 A structured screening process was then conducted applying the previously defined criteria. The  
156 inclusion criteria stipulated that studies must: (1) be published in a peer-reviewed journal, (2) be  
157 in English, and (3) be concerned with AI applications in HRM, especially recruitment, selection,  
158 fairness, or candidate experience. Conference papers, reviews, book chapters, non-English  
159 publications, and studies not related to HRM or hiring contexts were among the categories of  
160 items eliminated by the exclusion criteria. The resultant dataset consisted of 1,000 articles after  
161 eliminating duplicates from the different databases (n = 605) and non-eligible items that were  
162 excluded during title and abstract screening (n = 833). Data analysis with VOSviewer facilitated  
163 the creation of the networks of bibliographic coupling, co-authorship, and keyword co-occurrence.  
164 Besides that, the web-based Bibliometrix, Excel interface generated descriptive indicators,  
165 including yearly publication trends, impactful journals, preeminent authors, and citation patterns.  
166 The combined utilization of these instruments gave a comprehensive mapping of the intellectual  
167 structure and thematic development of the field.

## 168 **Results**

### 169 *Citation analysis*

#### 170 *Annual no of publications*

171 The timeline of the publication, which is shown in Table 1, has revealed a significant and  
172 uninterrupted increase of scholarly interest throughout the years. The period of 2012-2017 was  
173 rather uneventful for the domain, with an annual average of less than five papers published. In the  
174 year 2018, the activity started to increase gradually first with 20 publications and then soaring  
175 high from 2019 onwards. The years from 2019 to 2021 show the first significant increase, with  
176 the number of published papers going up from 57 in 2019 to 124 in 2021. The momentum  
177 continued, and although there is a slight decline in the year 2023, the overall trend is still very  
178 much upward. A notable surge is anticipated in 2024 and 2025, with the numbers hitting 184 and

179 279 publications respectively, which is the peak for the entire dataset. This increase in numbers  
180 points to the speeding up of the already existing interest from both academia and industry sectors,  
181 what is more, it is a sign of the growing demand for topics such as fairness, ethics, and hiring  
182 automation that are closely associated with AI-driven HRM.

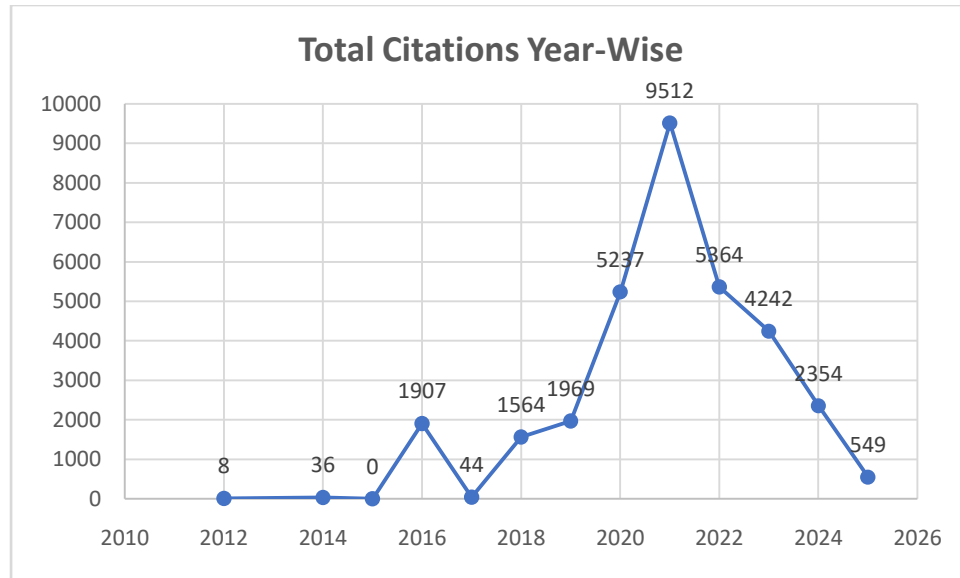
183 **Table 1. Analysis of Annual Publication Year-Wise**

Years	Publications	Total Citations
2012	1	8
2014	3	36
2015	1	0
2016	1	1907
2017	4	44
2018	20	1564
2019	57	1969
2020	71	5237
2021	124	9512
2022	146	5364
2023	109	4242
2024	184	2354
2025	279	549
Total	1000	32786

184

185 *Most cited studies year-wise*

186 Citation patterns, though, show the scenario differently than the publication volume. The year  
187 2016 stands out with a high citation count of 1,907, which is perhaps due to one or two  
188 outstanding works that had an impact on the early conversations in the area. The second-largest  
189 citation peak takes place in 2021 when 124 papers together were able to garner 9,512 citations,  
190 thus making it the most influential year overall. Other citation-rich years include 2020 (5,237  
191 citations), 2018 (1,564), and 2019 (1,969), which points out that the publications of these years  
192 are still relevant to the most current research. On the other hand, publication figures show a  
193 significant increase in 2024 and 2025, but the corresponding citations are much lower (2,354 and  
194 549, respectively), which is a normal situation considering the newness of these papers. As a  
195 whole, the trends illustrate that the research field has experienced a rapid rise in the number of  
196 publications, but the intellectual foundation was laid down by a few major contributions between  
197 2016 and 2021.



198

199 *Top cited studies*

200 *Influential journals*

201 Table 2 displays a limited number of authors who have greatly influenced the development of the  
 202 field. On top of the list is Ricardo Vinuesa et al. (2020) having 2030 citations, which is a sign of  
 203 their basic contribution to the topic of Sustainable Development Goals through AI. Likewise,  
 204 Janiesch, Zschech, and Heinrich (2021) are in the same position with 2084 citations giving them  
 205 the title of the most influential in providing insights on the organizational and information  
 206 systems research context of machine learning and deep learning. The next most cited author is  
 207 Dwivedi et al. (2021) with 2532 citations signifying their work to be the 'invisible hand' of  
 208 multidisciplinary AI research. Speaking of the fairness and algorithmic ethics issue, Konovalova  
 209 et al. (2016) appear with 1907 citations, confirming the perennial relevance of ethical discussions  
 210 in the sphere of algorithmic systems. There are also the aforementioned Lee (2018) with 824  
 211 citations and Tursunbayeva et al. (2021) with 540 citations who are mid-tiered influencers and  
 212 whose studies still matter to HRM, explainability, and AI policy discussions. Ultimately, these  
 213 authors constitute the intellectual backbone of the field, allowing the debates about AI's societal  
 214 roles, human–AI interaction, and fairness to continue.

215

216

217 *Leading Authors*

218 Table 2 provides a very clear illustration of the concentration of impact that is mainly seen in the  
 219 uppermost tier of the journals. Nature Communications and Nature Biomedical Engineering are  
 220 the two journals that have maximum citation volumes of their articles reflecting the greatest  
 221 global visibility and interdisciplinary reach. The International Journal of Information  
 222 Management and Electronic Markets, which has been the main publisher for these papers, is the  
 223 most cited journal in the field of Artificial Intelligence and digital transformation studies. The  
 224 number of citations per paper has exceeded 2,000, thus, it is in the leading position among  
 225 journals of such topics. Journals that are primarily focused on ethics like the Journal of Business  
 226 Ethics, AI & Society, AI and Ethics, and ACM Computing Surveys also exhibit significant impact,  
 227 indicating the transition of the academic community to the critical viewpoint in issues of fairness,  
 228 transparency, discrimination, and algorithmic accountability. On the other hand, journals in the  
 229 social science and technology fields like Big Data & Society, PLOS ONE, and Information  
 230 Systems Frontiers are also seen regularly in the dataset, which confirms their role as facilitators  
 231 of the new discussions on AI-HRM and algorithmic governance.

232 Table 2. Analysis of Most Influential Authors and Journals

<b>Authors</b>	<b>Source title</b>	<b>Cited by</b>
Vinuesa et al. (2020)	Nature communications	2030
Aust et al. (2020)	Human Resource Management Review	307
Dwivedi et al. (2021)	International Journal of Information Management	2532
Köchling and Wehner (2020)	Business Research	267
Arslan et al. (2021)	International Journal of Manpower	208
Lee (2018)	Big Data & Society	824
Ernst et al. (2019)	IZA Journal of Labor Policy	233
Rajagopal (2023)	Cognitive Computation	890
Arnesen et al. (2020)	PloS one	235
Escolar-Jimenez et al. (2021)	Sustainability	190
Vanin (2021)	AI & SOCIETY	219
Chaudhry and Kazim (2021)	AI and ethics	228
Janiesch et al. (2021)	Electronic Markets	2084
Leicht-Deobald et al. (2019)	Journal of business ethics : JBE	207
Konovalova et al. (2016)	Big Data & Society	1907
Shulner-Tal et al. (2021)	Big Data & Society	218
Bujold et al. (2019)	The Computer Journal	207
Tursunbayeva et al. (2021)	Information Systems Frontiers	540
Persson and	BMJ (Clinical research ed.)	888

Kavathatzopoulos (2024)		
Reddy Sareddy and Farhan (2022)	Journal of Business Ethics	230
Yaroson et al. (2020)	Journal of Business Ethics	365
Pessach and Shmueli (2022)	ACM Computing Surveys	378
Pandey (2023)	Nature biomedical engineering	359

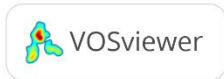
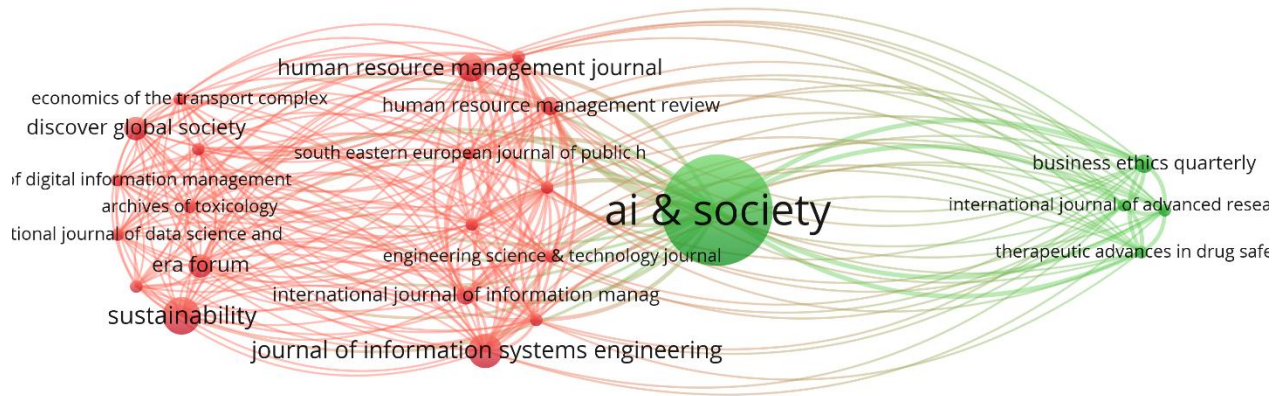
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## 234 **Bibliographic Coupling**

### 235 *Top Journals on the basis of citation*

236 Figure 1 shows a citation network of journals that are publishing research in the overlapping areas  
 237 of artificial intelligence, ethics, and human resource management. Each node size indicates the  
 238 journal's citation impact, whereas the strength and density of the connecting lines represent the  
 239 frequency of the co-citations among the journals in the dataset. The visualization very clearly  
 240 indicates that AI & Society is the journal that holds the most prominent position in the network.  
 241 Its node is the largest and most centrally located, which means that it is the most frequently cited  
 242 and well-connected journal in this research area. This implies that AI & Society is the primary  
 243 publication venue for the research topics of algorithmic fairness, digital ethics, and the societal  
 244 implications of AI. The second group of influential journals consisting of Sustainability, Journal  
 245 of Information Systems Engineering, Engineering Science & Technology Journal, and Human  
 246 Resource Management Review, is formed around them.

247 Although these nodes are smaller than AI & Society, their dense interconnections (marked in red)  
 248 indicate strong citation patterns between them and their importance in interdisciplinary research  
 249 that combines AI, HRM, management studies, and socio-technical systems. On the right side of  
 250 the figure, there are journals such as Business Ethics Quarterly, Therapeutic Advances in Drug  
 251 Safety, and the International Journal of Advanced Research, which are powerful but at the same  
 252 time very specialized in their fields. Their citation connections (highlighted in green) point back  
 253 to AI & Society, signaling that ethical issues of AI reach certain domains like bioethics,  
 254 healthcare AI, and organizational ethics. Therefore, it can be said, AI & Society is definitely the  
 255 most-cited and most-central journal in the field, and the interdisciplinary journals along with it  
 256 are progressively talking and writing about the ethical, social, and managerial implications of AI  
 257 which, by the way, was the major factor for their grouping.



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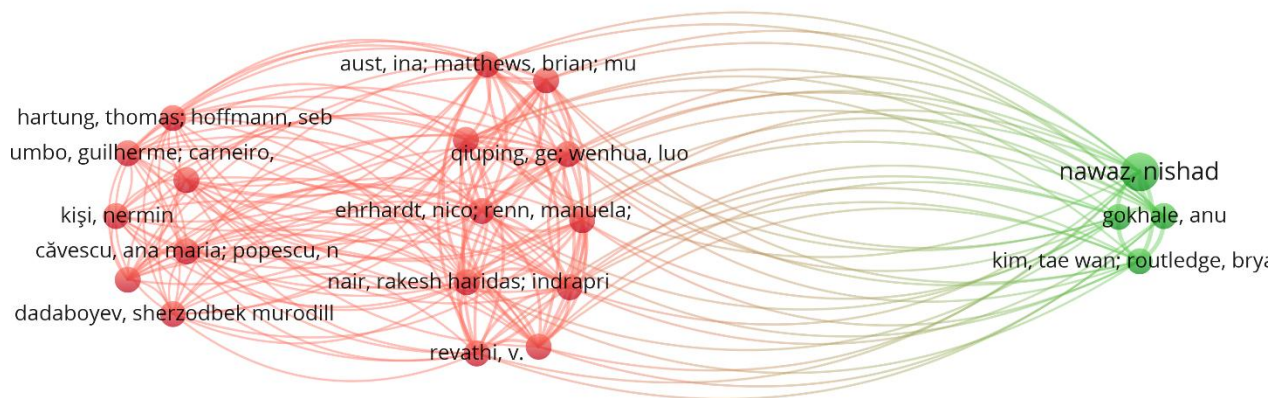
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**Figure 1. Bibliographic Coupling of Top Journals**

261 ***Top Authors on the basis of citation***

262 The author co-citation network is shown in Figure 2, where authors' nodes are sized according to  
 263 their citation volume, and the strength of the connections indicates the frequency of their co-  
 264 citation. The visualization points out the two main clusters that define the intellectual framework  
 265 of the discipline. The green cluster on the right marks the most significant researchers, among  
 266 whom Nishad Nawaz is the most conspicuous one. He is represented by the biggest and the most  
 267 central node, which means extraordinarily high citation numbers and broad co-citation with other  
 268 prominent scientists. Additionally, Anu Gokhale, Tae Wan Kim, and Bryan Routledge are also  
 269 identified in this cluster, indicating their considerable academic impact especially in the fields of  
 270 AI ethics, algorithmic management, and technology-based decision-making. The red cluster on  
 271 the left side of the diagram represents a less talked-about but larger group of scientists engaged in  
 272 research closely related to HRM, organizational behavior, sustainability, and digital  
 273 transformation. Ina Aust, Brian Matthews, Manuela Renn, Geng Wenhua, and Nico Ehrhardt are  
 274 some of the significant ones; they all have a very high co-citation rate within the respective topic.

275 The strong interconnectedness among the researchers indicates a solid common research  
 276 foundation in this cluster but also a less worldwide citation impact when compared to the green  
 277 cluster leaders. In conclusion, Nishad Nawaz stands out as the most cited and the most central  
 278 author in the network, and his influence on the research domain is large. Other authors are  
 279 important to their clusters as well, but their citations are limited to a narrower scope and more  
 280 specialized area.



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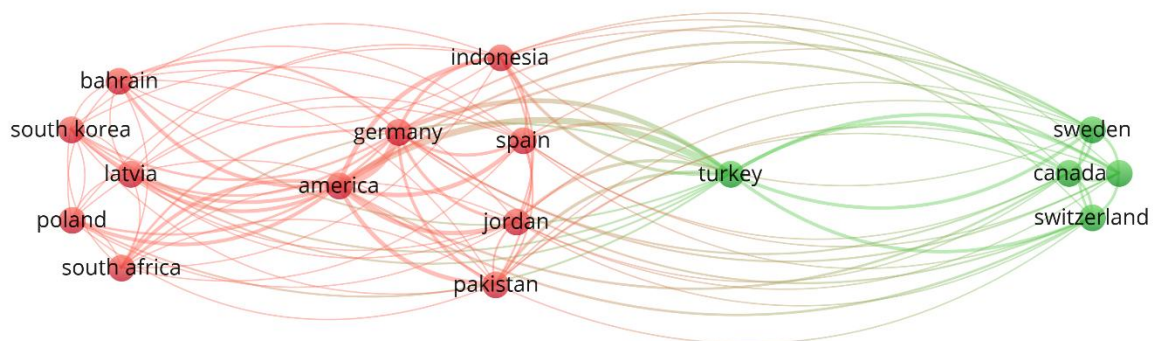
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**Figure 2. Bibliographic Coupling of Top Authors**

283 ***Bibliographic coupling of countries***

284 The connection between countries based on their shared references is represented in the  
 285 bibliographic coupling network depicted in Figure 3. Countries with higher research output are  
 286 represented by larger nodes, while thicker lines between the nodes represent stronger coupling.  
 287 The map showcases two distinct clusters with different collaboration and research influence  
 288 scenarios. To the right, the green cluster consisting of Sweden, Canada, and Switzerland is clearly  
 289 the strongest in terms of bibliographic coupling. The three countries show the most consistent  
 290 patterns of cross-citations and are tightly grouped together, which implies that they have a  
 291 common intellectual basis and a significant degree of methodological and thematic alignment in

292 their research. Their core position and link strength reflect that they are knowledgeable and very  
293 much part of the field's core knowledge structure. The red cluster on the left is made up of  
294 Germany, Spain, Indonesia, Jordan, Pakistan, Poland, South Korea, Bahrain, Latvia, and South  
295 Africa. These countries have moderate connectivity among themselves but are geographically  
296 more dispersed, suggesting the existence of different research traditions and a somewhat  
297 fragmented thematic focus. Within this cluster, Germany and Spain function as connecting nodes,  
298 indicating relatively stronger integration with global literature and wider citation access. Turkey  
299 is a crucial connecting point between the two clusters. It is located in the center and has  
300 bibliographic connections with both high-influence (green) countries and the wider red cluster,  
301 which implies that its research is sourced from and contributes to several knowledge streams  
302 across regions.



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**Figure 3. Bibliographic Coupling of Top Countries**

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***Bibliographic coupling of Author keywords***

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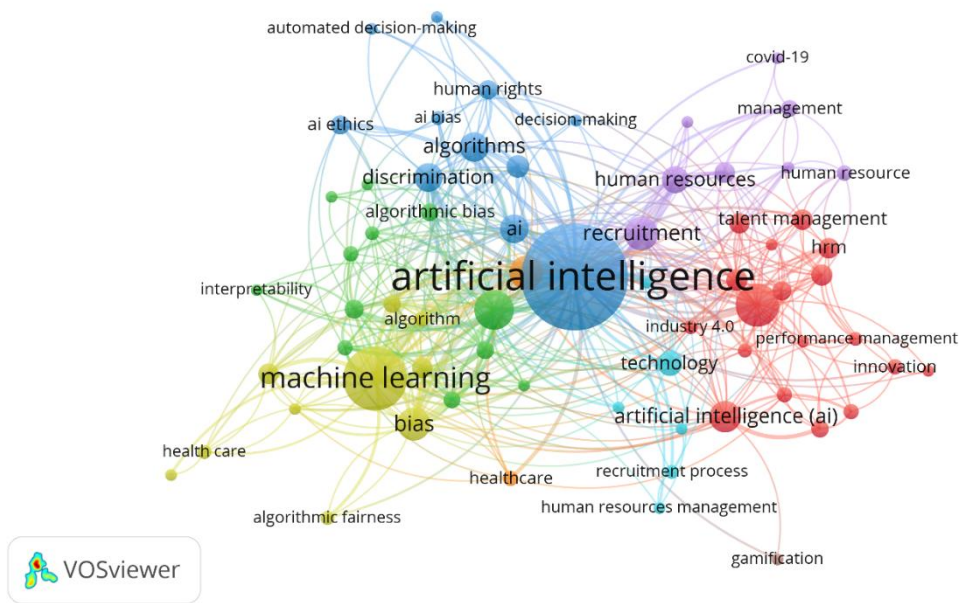
Map in Figure 4 presents the authors' keywords' bibliographic coupling and demonstrates the degree of co-citation of different concepts as well as the major research areas which they are around. The frequency of each keyword is represented by the size of each node, and the color-

309 coded clusters indicate the main thematic areas. The strength of the conceptual linkages within  
310 the field is represented by the density and thickness of the connecting lines. The term "artificial  
311 intelligence" at the center of the map forms the strongest and the most powerful node, thus  
312 signifying its position as the unifying core among the various research themes. Very near to it are  
313 "machine learning", "algorithms", "bias", and "algorithmic bias" as the keywords that show  
314 fairness, discrimination, and transparency being the dominating issues in the scholarly  
315 discussions. This central cluster (blue and green nodes) represents the methodological and ethical  
316 basis of AI research.

317 The yellow-green cluster highlights the technical and methodological aspects of machine  
318 learning, interpretability, algorithmic fairness, healthcare, and automated decision-making,  
319 among others. This indicates an increasing academic interest in the areas of explainability and  
320 deployment of AI systems in sensitive, high-stakes situations. A distinct red cluster shows a  
321 strong allegiance to the HR and organizational applications, and HR, recruitment, talent  
322 management, performance management, innovation, and Industry 4.0 are the main keywords  
323 linked with it. The close-knit relations among the researchers in this area suggest that they are  
324 very much involved in the study of the AI's influence over work force management, HR decision-  
325 making, and organizational processes. The purple cluster stands for the bigger picture of  
326 management issues and COVID-19, where the pandemic has, to a great extent, caused a digital  
327 transformation and the use of algorithms in workplaces.

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**Figure 3. Bibliographic Coupling Author Keywords**

332 **Future Directions**

333 Multiple directions for further research to be conducted have been revealed through this  
 334 bibliometric analysis. First, the upcoming researchers have to present the applicants' feelings  
 335 regarding the AI-based hiring process more authentically as the main evidence. A considerable  
 336 portion of the existing literature focuses on the productivity and mechanization aspects, while the  
 337 opposite side has either very little or no information at all on the applicants' views of fairness,  
 338 trust, and transparency when being evaluated by algorithms. Large sample surveys, along with  
 339 experiments and industry comparisons, could all be instrumental in determining if and to what  
 340 degree different consumer groups accept the decisions derived from AI. The issue of  
 341 explainability and transparency within the recruitment process of the candidates and the recruiters  
 342 has already been raised as an important one and needs to be addressed immediately. More  
 343 advanced AI systems are closely related to the issue of understanding the information needs of the  
 344 users and how that will affect their trust, perceived fairness, and acceptance. A possible theme for  
 345 future research could be the study of varied system feedbacks from simple explanations to fully  
 346 interpretable models.

347 Thirdly, there still isn't sufficient research conducted upon the complexity of interplay between  
 348 the human decision making and machine recommendations. The AI outputs are not always the

349 leading factor in the decision-making process of the recruiters. The way the recruiters interact  
350 with the AI by choosing to ignore, totally accepting or giving their own meaning to the machine's  
351 recommendations could very well affect the fairness of the recruitment process. The study on  
352 human-AI partnership should include various factors such as organizational culture, workload,  
353 interface design, and decision power that are conducive to the partnership. Fourthly, the rapid  
354 adoption of technology has made it even more urgent to look at governance and regulatory  
355 models. The more the organizations are required to reveal the fairness and the transparency of  
356 their operations, the more the researchers are called upon to investigate the impact of different  
357 control measures—like audits, standards, risk assessments, or certification systems on the  
358 recruitment practices and the candidates' outcomes.

359 Fifth, future work should examine the social and psychological aspects of AI-enabled hiring. The  
360 digital literacy, expectations, and emotional responses of the candidates may be the factors that  
361 determine their acceptance of the AI-driven processes to a large extent. It will be very important  
362 to know the impact of algorithmic decisions on employer attractiveness, perceived respect, and  
363 applicant well-being while designing humane recruitment systems. Last but not least, the area  
364 will be in need of interdisciplinary and cross-country collaborations. Recruitment AI overlaps  
365 with a range of areas including ethics, data science, psychology, employment law, and  
366 organizational behavior. By merging viewpoints from these separate fields, and doing so  
367 simultaneously in several places with different and varying cultural norms and technological  
368 maturity, one will certainly gain a deeper insight and also be able to contribute to the  
369 development of fairer and more open hiring ecosystems.

## 370 **Discussion**

371 The study's bibliometric patterns show that the field has been rapidly growing in terms of both  
372 volume and diversity of concepts, yet at the same time, it has been experiencing fragmentation  
373 and uneven thematic development. The increase in publications after 2018 indicates the global  
374 trend towards data-driven HRM and the wide use of AI-enabled hiring technologies. A lot of this  
375 growth is in agreement with the previous conceptual arguments which predicted the efficiency,  
376 predictive accuracy, and strategic HRM roles enhancement with AI (Strohmeier & Piazza, 2015;  
377 Jain, 2018). However, alongside the development of the field, the critical perspectives concerning

378 the issues of fairness, transparency, discrimination, and algorithmic accountability have also  
379 increased significantly.

380 The citation occurrence mainly rises in the years 2016—2021 and especially in the case of the  
381 works that had the greatest impact their proper use was a main factor in the formation of the first  
382 ethical and socio-technical debates. During that time, fairness, algorithmic decision-making, and  
383 the impacts of AI on society studies were attracting an immense amount of attention. For example,  
384 research results showing how algorithms can strengthen or even increase existing biases (Raisch  
385 & Krakowski, 2021) provided a conceptual basis for understanding the dangers of AI-based HRM.  
386 Furthermore, the work focusing on the socio-legal and governance challenges created by AI  
387 systems (Santoso & al., 2024, etc.) brought the lack of proper institution support for the AI-based  
388 power of organizations when they are opting for methods like algorithmic hiring to be seen  
389 clearly.

390 An illustration of the bibliographic coupling of journals indicates that AI & Society is the main  
391 intellectual center of the discipline. The position of this journal at the core demonstrates that the  
392 field is dominated by ethical, sociotechnical, and justice-oriented views. The more distant  
393 journals like Journal of Business Ethics, Big Data & Society, and International Journal of  
394 Information Management point at a rapprochement between management studies, digital ethics,  
395 and information systems research that is really in the making. This scenario depicts how the  
396 discipline done essentially technical issues has matured into a multi-disciplinary conversation  
397 concerning the human impacts, the legitimacy of the institution's actions, or the practices of  
398 responsible innovation.

399 The author coupling network is in full support of the dual structure of the discipline: one group of  
400 researchers who mainly devoted their attention to the ethical, fair, and socio-technical risks  
401 discussions and the other one dealing with the organizational adjustment, HRM transformations,  
402 and building up the digital capability. In this scenario, the most significant works dealing with  
403 candidate perceptions, trust, and recruiter behavior still count as quite limited ones. To some  
404 extent, studies like that of Lacroux and Martin-Lacroux (2022) point out the tensions in the  
405 recruiter-AI interaction; however, they do not penetrate much into the candidate-facing outcomes.  
406 Such a situation creates a mismatch between the discussions and the very limited empirical

407 research on human aspect, trust, and psychological responses to AI-mediated hiring; hence, one  
408 can clearly see a gap in this area.

409 The country-level coupling presents an interesting geographical situation. Countries like Sweden,  
410 Canada, and Switzerland, which possess high-quality research infrastructures, are responsible for  
411 the majority of the ethical and governance-related scholarship. Conversely, the nations classified  
412 as developing ones are the ones that most likely resort to new technology and the modernization  
413 of human resource management (Islam et al., 2022). The above-mentioned division evidences that  
414 worldwide research priorities are influenced by technological preparedness, regulatory  
415 environments, and labour market characteristics among others. In addition, it points out that the  
416 notion of justice and candidate experience may not be alike in different cultures, and this can be a  
417 reason for the necessity of conducting cross-cultural studies.

418 The eventful map of author keywords illustrates four major streams: the ethical and social  
419 implications of AI, the technical and methodological discussions, the HRM-specific applications,  
420 and the more general managerial or contextual themes such as COVID-19. The frequent  
421 occurrence of the words “bias,” “algorithmic bias,” “machine learning,” and “recruitment”  
422 reflects that fairness issues are now accepted as a core concern rather than being relegated to the  
423 periphery of the field. Yet, the relatively few keywords that are closely associated with “candidate  
424 experience,” “trust,” or “transparency” suggest that the experiential side of AI hiring has still not  
425 been fully recognized by the academics.

426 The total bibliometric data depicts a vibrant but unevenly distributed field. The ethical and  
427 technical controversies constitute the major areas of interest, while at the same time, there is a  
428 scarcity of empirical studies on candidates, organizational behavior, and real-world  
429 implementation practices. The cross-pollination of fields is still very much limited, with  
430 management, computer science, psychology, and law offering parallel discussions rather than  
431 completely interlinked ones. This separation accentuates the necessity for more thoroughgoing,  
432 interdisciplinary strategies that bring together ethical theory, HRM practice, technological design,  
433 and user-centric viewpoints.

434 **Conclusion**

435 The research has mapped out the intellectual structure, the thematic change over time, and  
436 the movements of citations of studies that have dealt with AI's role in recruitment fairness and  
437 candidate experience. The bibliometric data reveals that the sector of AI-supported Human  
438 Resource Management has experienced a great deal of scholarly attention since 2018, with the  
439 amount of publications and citations becoming more prevalent and quicker in various disciplines.  
440 The most important papers published between 2016 and 2021 played a major role in the  
441 conceptual development of the field along the lines of algorithmic fairness, ethical issues, and AI  
442 integration within companies. The journals *AI & Society*, *Journal of Business Ethics*,  
443 *International Journal of Information Management*, and *Electronic Markets* have emerged as the  
444 leading hubs and have been the ones influencing the debates on socio-technical implications,  
445 digital ethics, and HRM transformation.

446 The research discloses a domain that, although very different, remains partitioned when  
447 considering writers, journals, nations, and keywords. Amongst the discussions, the ethical and  
448 methodological issues take the lead, while the empirical studies about the candidates, their trust,  
449 and personal experiences with AI-powered hiring are still lacking in numbers. The patterns of the  
450 countries are also indicative of the global participation not being equal, with developed countries  
451 focusing on governance and fairness, while the developing ones on adoption, efficiency, and  
452 updating the workforce. The occurrence of words such as “bias,” “algorithmic bias,” “machine  
453 learning,” and “recruitment” suggests that fairness has been a major research concern, but the  
454 experiential and behavioral dimensions are still receiving very little systematic attention.

#### 455 **Recommendations for Future Research**

456 Based on these insights, several directions emerge for strengthening and advancing the field:

- 457 1. Deepen empirical research on candidate experience: Most studies focus on organizational  
458 efficiency and algorithmic performance, leaving a gap in understanding how candidates  
459 perceive fairness, transparency, and trust in AI-mediated hiring.
- 460 2. Investigate cross-cultural and sectoral differences: Variations in digital readiness,  
461 regulatory environments, and labour-market norms suggest that fairness and candidate  
462 experience may differ significantly across countries and industries.

- 463 3. Integrate interdisciplinary perspectives: The field would benefit from more collaborative  
464 research linking HRM, computer science, psychology, law, and ethics to develop holistic  
465 models of responsible AI adoption.
- 466 4. Examine human–AI decision dynamics: Recruiter behaviour, override decisions, and  
467 hybrid decision-making processes warrant deeper study to understand how humans and  
468 algorithms jointly influence hiring outcomes.
- 469 5. Assess long-term impacts of AI on workforce diversity and inclusion: While bias  
470 detection has been widely discussed, empirical evidence on long-term equity outcomes  
471 remains limited.
- 472 6. Strengthen methodological transparency and reproducibility: As AI systems evolve rapidly,  
473 research must increasingly emphasize dataset quality, model auditability, and robust  
474 evaluation frameworks.
- 475 7. Explore regulatory and governance mechanisms: Future work should examine how  
476 emerging laws and standards influence organizational adoption, accountability structures,  
477 and the mitigation of algorithmic risks.
- 478 8. Study real-world implementation challenges: There is a growing need for field studies  
479 documenting organizational barriers, change management issues, and user reactions  
480 during AI deployment.

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