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

Abstract

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

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

Introduction

The adoption of artificial intelligence (AI) gradually across all fields has led to significant changes in the structure of the workplace, decision-making, and technology interaction between employees. HRM has been the most affected sector and, consequently, has come under the spotlight as the most visible and fastest-changing domain. Regularly, the studies conducted around Industry 4.0 highlight HR's crucial role in digital transformation, human-technology partnerships, and preparing the organization for continuous technological advancement (Dhanpat et al., 2020; Hecklau et al., 2016). The moment companies implement AI applications for predictive analytics, performance evaluation, talent development, and workflow optimization, recruiting is to be one of the first and most favored areas of application. This is partly due to the tremendous amount of applicant data that online platforms generate, the efficiency that AI promises, and the increasing management focus on making the talent acquisition process less complicated (Ghedabna et al., 2024).

The early theoretical studies regarded AI as the main factor in the transition of HRM toward data-driven practices. Strohmeier and Piazza (2015) point out that 2 the implementation of AI techniques, from expert systems to machine learning, can enhance decision quality, lessen the administrative burden, and improve predictive accuracy in HR functions. Jain (2018) enlarges this view, claiming that AI enables HR professionals to leave the handling of the operational processes and take on more strategic roles which will lead to the implementation of evidence-based decision-making and targeted workforce planning. Recent papers highlight that AI has already moved way beyond its initial role of a mere automator and now includes intelligent resume parsing, algorithmic candidate matching, and job success predictive models as comprising of its functions (Gupta, 2024; Jia et al., 2018). Thus, these advancements together have formed AI to be an increasingly powerful player in the modern hiring ecosystems.

Recruitment, specifically, has become the center of attention for both academic research and industry trials. Geetha and Bhanu (2018) consider AI recruitment as a manual screening phase that gradually shifts to an automated one, thus speeding up the hiring

process and increasing the precision of the matches. The rapid digital expansion of applicants and the use of advanced algorithms allow the firms to do the screening for thousands of candidates very quickly. AI-based recruitment tools have been proved to be popular in the emerging markets by Islam et al. (2022), they find organizations are using them to handle large numbers of applicants and also to combat skill shortages. Ghedabna et al. (2024), on the other hand, also note that the application of AI would be wide-ranging i.e. recruitment, performance management, and management of employee development, thus, reinforcing the technology's role as a transformative HRM tool.

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

The recruiters' reactions to AI recommendations have a significant impact on the overall decision. According to Lacroux and Martin-Lacroux (2022), the recruiters' reliance on the recommendations is only partial even when the algorithms with high performance are the source of the recommendations. The recruiters can either reject or accept AI recommendations, based on their own discretion regarding the algorithmic outputs, or they can view the system as a supporter of their decision rather than a maker of it. The report of the researchers points to a very complicated interplay of factors like human judgment,

algorithmic authority, and organizational norms, with trust and perceived validity as the key reasons for adoption. This situation of reluctance is what Raisch and Krakowski (2021) describe as the automation-augmentation paradox: organizations use AI for automating decision-making but still very much rely on human oversight for risk minimization, legitimacy maintenance, and context-sensitive judgment.

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

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

This division of studies can be most clearly seen in the issues of recruitment fairness and candidate experience. While a lot of research talks about the operational advantages of

AI in the recruitment process, such as speed, efficiency, and reduction of workload—very little is known about its impact on the perceptions of fairness, trust, and attractiveness of the organization. Candidate experience research can be considered a far more neglected area when compared to the large and growing area of AI technical capability studies. Geetha and Bhanu (2018) do concede the point of AI's efficacy but give only a little attention to the candidates' perceptions. Islam et al. (2022) point out 2 that although AI tools assist the organizations in managing large applicant pools, the issues of fairness and transparency might keep the qualified candidates away from applying. The same can be said about the recruiter-focused studies (Lacroux & Martin-Lacroux, 2022) where the behavioral tensions are revealed but the candidates' understanding of these algorithmic decisions is not fully explored.

The disparity between focusing on operations and gaining experiences has resulted in a major gap in the research. The discussion around AI in HRM covering efficiency, technological basis, and organizational impact has been thoroughly done. However, the area of fairness and candidate experience in recruitment has still not been fully researched. Besides, most of the existing literature depends on theoretical reasoning, case studies, or small-scale empirical research thus providing a very limited insight into the movements of academic attention over time, the dominating themes of the field, and the areas with research gaps. A bibliometric approach is the right method to close this gap. Through the analysis of publishing trends, and the determination of key authors and journals along with the charting of topic clusters, bibliometric analysis presents a comprehensive view of the progress in that field. This type of analysis assists in pointing out the direction of past AI in HRM research particularly 1 in the areas of recruitment fairness and candidate experience, the current focus of scholars, and the new lines of thought coming up. It also showcases the less explored areas, the overlooked methodologies, and the potentials for further inquiries.

The interest in AI-enabled recruitment has been growing among academicians as well as practitioners. However, there is still no large-scale bibliometric analysis uncovering the

intellectual landscape of AI, fairness, and candidate experience within HRM. The reviews existing so far are generally narrative or conceptual and thus have no structured evidence on publication growth, citation patterns, influential contributions, or thematic mapping. As organizations are continuously integrating AI-powered hiring solutions, it is necessary to recognize the research field's evolution in order to direct responsible innovation, regulate the development, and do empirical work in the future. Consequently, the current study wants to fill this void by carrying out an in-depth bibliometric study of the intersection of AI, HRM, recruitment fairness, and candidate experience. The objectives are to illustrate publication trends, spot prominent authors, journals, and countries, analyze the field's intellectual and thematic structure, and indicate the future research directions. Thus, the research provides a unified view on how the scholarly work in this domain has evolved and what areas still require more research.

Methodology

In this study, a bibliometric method was employed to monitor the development of AI research in the HRM area, particularly concerning recruitment fairness and candidate experience. Data were collected from the two major academic databases, Scopus and Web of Science (WoS), thereby guaranteeing the full coverage of peer-reviewed literature in the disciplines of management, social sciences, and technology. The search was conducted by applying the following query to titles, abstracts, and author keywords: ("artificial intelligence" OR "machine learning" OR "algorithmic decision making" OR "automation" OR "algorithmic hiring" OR "AI recruitment" OR "AI hiring") AND ("human resource management" OR HRM OR recruitment OR "talent acquisition" OR "employee selection" OR "candidate screening") AND (fairness OR bias OR "candidate experience" OR transparency OR discrimination OR "ethical hiring")

No specific time limit was set; to illustrate the development of the field, all years till 2025 were taken into account. A total of 2,438 records were generated by the joint search in Scopus and WoS. A structured screening process was then conducted applying the previously defined criteria. The inclusion criteria stipulated that studies must: (1) be

published in a peer-reviewed journal, (2) be in English, and (3) be concerned with 3 AI applications in HRM, especially recruitment, selection, fairness, or candidate experience. Conference papers, reviews, book chapters, non-English publications, and studies not related to HRM or hiring contexts were among the categories of items eliminated by the exclusion criteria. The resultant dataset consisted of 1,000 articles after eliminating duplicates from the different databases (n = 605) and non-eligible items that were excluded during title and abstract screening (n = 833). Data analysis with VOSviewer facilitated the creation of the networks of bibliographic coupling, co-authorship, and keyword co-occurrence. Besides that, the web-based Bibliometrix, Excel interface generated descriptive indicators, including yearly publication trends, impactful journals, preeminent authors, and citation patterns. The combined utilization of these instruments gave a comprehensive mapping of 1 the intellectual structure and thematic development of the field.

Results

Citation analysis

Annual no of publications

The timeline of the publication, which is shown in Table 1, has revealed a significant and uninterrupted increase of scholarly interest throughout the years. The period of 2012-2017 was rather uneventful for the domain, with an annual average of less than five papers published. In the year 2018, the activity started to increase gradually first with 20 publications and then soaring high from 2019 onwards. The years from 2019 to 2021 show the first significant increase, with the number of published papers going up from 57 in 2019 to 124 in 2021. The momentum continued, and although there is a slight decline in the year 2023, the overall trend is still very much upward. A notable surge is anticipated in 2024 and 2025, with the numbers hitting 184 and 279 publications respectively, which is the peak for the entire dataset. This increase in numbers points to the speeding up of the already existing interest from both academia and industry sectors, what is more, it is a sign of the growing demand for topics such as fairness, ethics, and hiring automation that are closely

associated with AI-driven HRM.

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

Most cited studies year-wise

Citation patterns, though, show the scenario differently than the publication volume. The year 2016 stands out with a high citation count of 1,907, which is perhaps due to one or two outstanding works that had an impact on the early conversations in the area. The second-largest citation peak takes place in 2021 when 124 papers together were able to garner 9,512 citations, thus making it the most influential year overall. Other citation-rich years include 2020 (5,237 citations), 2018 (1,564), and 2019 (1,969), which points out that the publications of these years are still relevant to the most current research. On the other

hand, publication figures show a significant increase in 2024 and 2025, but the corresponding citations are much lower (2,354 and 549, respectively), which is a normal situation considering the newness of these papers. As a whole, the trends illustrate that the research field has experienced a rapid rise in the number of publications, but the intellectual foundation was laid down by a few major contributions between 2016 and 2021.

Top cited studies

Influential journals

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

Leading Authors

Table 2 provides a very clear illustration of the concentration of impact that is mainly seen in the uppermost tier of the journals. Nature Communications and Nature Biomedical

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

Table 2. Analysis of Most Influential Authors and Journals

Authors

Source title

Cited by

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

3 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 Kavathatzopoulos (2024)

BMJ (Clinical research ed.)

888

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

Bibliographic Coupling

Top Journals on the basis of citation

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

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

which, by the way, was the major factor for their grouping.

Figure 1. Bibliographic Coupling of Top Journals

Top Authors on the basis of citation

The author co-citation network is shown in Figure 2, where authors' nodes are sized according to their citation volume, and the strength of the connections indicates the frequency of their co-citation. The visualization points out the two main clusters that define the intellectual framework of the discipline. The green cluster on the right marks the most significant researchers, among whom Nishad Nawaz is the most conspicuous one. He is represented by the biggest and the most central node, which means extraordinarily high citation numbers and broad co-citation with other prominent scientists. Additionally, Anu Gokhale, Tae Wan Kim, and Bryan Routledge are also identified in this cluster, indicating their considerable academic impact especially in the fields of AI ethics, algorithmic management, and technology-based decision-making. The red cluster on the left side of the diagram represents a less talked-about but larger group of scientists engaged in research closely related to HRM, organizational behavior, sustainability, and digital transformation. Ina Aust, Brian Matthews, Manuela Renn, Geng Wenhua, and Nico Ehrhardt are some of the significant ones; they all have a very high co-citation rate within the respective topic. The strong interconnectedness among the researchers indicates a solid common research foundation in this cluster but also a less worldwide citation impact when compared to the green cluster leaders. In conclusion, Nishad Nawaz stands out as the most cited and the most central author in the network, and his influence on the research domain is large. Other authors are important to their clusters as well, but their citations are limited to a narrower scope and more specialized area.

Figure 2. Bibliographic Coupling of Top Authors

Bibliographic coupling of countries

The connection between countries based on their shared references is represented in the bibliographic coupling network depicted in Figure 3. Countries with higher research output are represented by larger nodes, while thicker lines between the nodes represent stronger coupling. The map showcases two distinct clusters with different collaboration and research influence scenarios. To the right, the green cluster consisting of Sweden, Canada, and Switzerland is clearly the strongest in terms of bibliographic coupling. The three countries show the most consistent patterns of cross-citations and are tightly grouped together, which implies that they have a common intellectual basis and a significant degree of methodological and thematic alignment in their research. Their core position and link strength reflect that they are knowledgeable and very much part of the field's core knowledge structure. The red cluster on the left is made up of Germany, Spain, Indonesia, Jordan, Pakistan, Poland, South Korea, Bahrain, Latvia, and South Africa. These countries have moderate connectivity among themselves but are geographically more dispersed, suggesting the existence of different research traditions and a somewhat fragmented thematic focus. Within this cluster, Germany and Spain function as connecting nodes, indicating relatively stronger integration with global literature and wider citation access. Turkey is a crucial connecting point between the two clusters. It is located in the center and has bibliographic connections with both high-influence (green) countries and the wider red cluster, which implies that its research is sourced from and contributes to several knowledge streams across regions.

Figure 3. Bibliographic Coupling of Top Countries

Bibliographic coupling of Author keywords

Map in Figure 4 presents the authors' keywords' bibliographic coupling and demonstrates the degree of co-citation of different concepts 2 as well as the major research areas which they are around. The frequency of each keyword is represented by 9 the size of each node, and the color-coded clusters indicate the main thematic areas. The strength of the conceptual linkages within the field is represented by the density and thickness of the

connecting lines. The term "artificial intelligence" at the center of the map forms the strongest and the most powerful node, thus signifying its position as the unifying core among the various research themes. Very near to it are “machine learning”, “algorithms”, “bias”, and “algorithmic bias” as the keywords that show fairness, discrimination, and transparency being the dominating issues in the scholarly discussions. This central cluster (blue and green nodes) represents the methodological and ethical basis of AI research. The yellow–green cluster highlights the technical and methodological aspects of machine learning, interpretability, algorithmic fairness, healthcare, and automated decision-making, among others. This indicates an increasing academic interest in the areas of explainability and deployment of AI systems in sensitive, high-stakes situations. A distinct red cluster shows a strong allegiance to the HR and organizational applications, and HR, recruitment, talent management, performance management, innovation, and Industry 4.0 are the main keywords linked with it. The close-knit relations among the researchers in this area suggest that they are very much involved in the study of the AI's influence over work force management, HR decision-making, and organizational processes. The purple cluster stands for the bigger picture of management issues and COVID-19, where the pandemic has, to a great extent, caused a digital transformation and the use of algorithms in workplaces.

Figure 3. Bibliographic Coupling Author Keywords

Future Directions

Multiple directions for further research to be conducted have been revealed through this bibliometric analysis. First, the upcoming researchers have to present the applicants' feelings regarding the AI-based hiring process more authentically as the main evidence. A considerable portion of the existing literature focuses on the productivity and mechanization aspects, while the opposite side has either very little or no information at all

on the applicants' views of fairness, trust, and transparency when being evaluated by algorithms. Large sample surveys, along with experiments and industry comparisons, could all be instrumental in determining if and to what degree different consumer groups accept the decisions derived from AI. The issue of explainability and transparency within the recruitment process of the candidates and the recruiters has already been raised as an important one and needs to be addressed immediately. More advanced AI systems are closely related to the issue of understanding the information needs of the users and how that will affect their trust, perceived fairness, and acceptance. A possible theme for future research could be the study of varied system feedbacks from simple explanations to fully interpretable models.

Thirdly, there still isn't sufficient research conducted upon the complexity of interplay between the human decision making and machine recommendations. The AI outputs are not always the leading factor in the decision-making process of the recruiters. The way the recruiters interact with the AI by choosing to ignore, totally accepting or giving their own meaning to the machine's recommendations could very well affect the fairness 2 of the recruitment process. The study on human-AI partnership should include various factors such as organizational culture, workload, interface design, and decision power that are conducive to the partnership. Fourthly, 2 the rapid adoption of technology has made it even more urgent to look at governance and regulatory models. The more the organizations are required to reveal the fairness and the transparency of their operations, the more the researchers are called upon to investigate the impact of different control measures—like audits, standards, risk assessments, or certification systems on the recruitment practices and the candidates' outcomes.

Fifth, future work should examine the social and psychological aspects of AI-enabled hiring. The digital literacy, expectations, and emotional responses of the candidates may be the factors that determine their acceptance of the AI-driven processes to a large extent. It will be very important to know the impact of algorithmic decisions on employer attractiveness, perceived respect, and applicant well-being while designing humane

recruitment systems. Last but not least, the area will be in need of interdisciplinary and cross-country collaborations. Recruitment AI overlaps with a range of areas including ethics, data science, psychology, employment law, and organizational behavior. By merging viewpoints from these separate fields, and doing so simultaneously in several places with different and varying cultural norms and technological maturity, one will certainly gain a deeper insight and also be able to contribute to the development of fairer and more open hiring ecosystems.

Discussion

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

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

An illustration of the bibliographic coupling of journals indicates that AI & Society is the

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

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

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

the necessity of conducting cross-cultural studies.

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

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

Conclusion

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

the ones influencing the debates on socio-technical implications, digital ethics, and HRM transformation.

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

1 Recommendations for Future Research

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

1. Deepen empirical research on candidate experience: Most studies focus on organizational efficiency and algorithmic performance, leaving a gap in understanding how candidates perceive fairness, transparency, and trust in AI-mediated hiring.

2. Investigate cross-cultural and sectoral differences: Variations in digital readiness, regulatory environments, and labour-market norms suggest that fairness and candidate experience may differ significantly across countries and industries.

3. Integrate interdisciplinary perspectives: The field would benefit from more collaborative research linking HRM, computer science, psychology, law, and ethics to develop holistic models of responsible AI adoption.

4. Examine human–AI decision dynamics: Recruiter behaviour, override decisions, and hybrid decision-making processes warrant deeper study to understand how humans and algorithms jointly influence hiring outcomes.

5. Assess long-term impacts of AI on workforce diversity and inclusion: While bias

detection has been widely discussed, empirical evidence on long-term equity outcomes remains limited.

6. Strengthen methodological transparency and reproducibility: As AI systems evolve rapidly, research must increasingly emphasize dataset quality, model auditability, and robust evaluation frameworks.

7. Explore regulatory and governance mechanisms: Future work should examine how emerging laws and standards influence organizational adoption, accountability structures, and the mitigation of algorithmic risks.

8. Study real-world implementation challenges: There is a growing need for field studies documenting organizational barriers, change management issues, and user reactions during AI deployment.

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