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RESEARCH ARTICLE

EXPLORING THE IMPACT OF ARTIFICIAL INTELLIGENCE ON RECRUITMENT FAIRNESS AND CANDIDATE EXPERIENCE IN LARGE COMPANIES

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Abstract

The paper primarily discusses how AI is gradually influencing recruitm ent processes, particularly fairness and candidate experience, in large companies, using bibliometric analysis 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 trends in published works,influential authors and journals, high-impact countries, and the field's thematic structure. The results reveal that since 2018, there has been a considerable increase in research activity, attributable to the growing adoption of AI-driven recruitment tools and rising anxieties about fairness, bias, transparency, and accountability. The highly cited works from 2016 to 2021 have formed the intellectual core of the field and have addressed topics such as algorithmic discriminatio n, ethical governance, and the socio-technical implications of AI. The keywords and bibliographic coupling indicate four prominent thematic areas: EQ and algorithmic bias; technical and methodological advance ments; HRM and recruitment applications; and broader managerial or contextual themes. The field is dynamic in terms of growth, but it remains highly fragmented, with 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 provides a summary 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 on humans.

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Introduction:-

The gradual adoption of artificial intelligence (AI) across all fields has led to significant changes in workplace structure, decision-making, and employee-technology interactions. HRM has been the most affected sector and, consequently, has come under the spotlight as the most visible and fastest-changing domain. Regularly, studies on 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 volume of applicant data generated by online platforms, the efficiency AI promises, and the growing management focus on simplifying the talent acquisition process (Ghedabna et al., 2024).

Early theoretical studies regarded AI as the primary driver of the transition of HRM toward data-driven practices. Strohmeier and Piazza (2015) point out that implementing AI techniques, from expert systems to machine learning, can enhance decision quality, reduce administrative burden, and improve predictive accuracy in HR functions. Jain (2018) expands on this view, claiming that AI enables HR professionals to focus on strategic roles and delegate operational processes to AI, thereby enabling evidence-based decision-making and targeted workforce planning. Recent papers highlight that AI has already moved well beyond its initial role as a mere automator and now includes intelligent resume parsing, algorithmic candidate matching, and job success predictive models among its functions (Gupta, 2024; Jia et al., 2018). Thus, these advancements together have made AI an increasingly powerful player in the modern hiring ecosystem.

Recruitment, specifically, has become the focus of both academic research and industry trials. Geetha and Bhanu (2018) consider AI recruitment a manual screening phase that gradually shifts to an automated one, thereby speeding up the hiring process and increasing the precision of matches. The rapid digital expansion of applicants and the use of advanced algorithms allow firms to screen thousands of candidates very quickly. AI-based recruitment tools are popular in emerging markets, according to Islam et al. (2022). They find that organizations are using them to handle large numbers of applicants and 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 employee development, thus reinforcing the technology's role as a transformative HRM tool.

Nevertheless, the more AI takes over recruitment processes, the more issues of fairness, discrimination, transparency, and candidates' experience must be addressed. The risk of creating so-called algorithmic bias, whether through unbalanced training data, poor model design, or unfair performance labels, is a major factor in raising ethical and legal issues. Researchers point out that, if not properly supervised, advanced screening systems could contribute to the reproduction or even the amplification of existing social inequalities (Raisch & Krakowski, 2021). Johnson et al. (2022) argue that the lack of clarity about many AI systems makes it difficult to assign responsibility, particularly in 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 transparent and fair evaluation processes.

Recruiters' reactions to AI recommendations significantly impact the overall decision. According to Lacroux and Martin-Lacroux (2022), recruiters' reliance on recommendations is only partial, even when high-performance algorithms are the source of those recommendations. Recruiters can either accept or reject AI recommendations at their discretion, or they can view the system as a supporter of their decisions rather than a maker of them. The researchers' report points to a complex interplay among factors such as human judgment, algorithmic authority, and organizational norms, with trust and perceived validity as the key drivers of adoption. This reluctance is what Raisch and Krakowski (2021) describe as the automation-augmentation paradox: organizations use AI to automate decision-making but still rely heavily 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 align with organizations' main concerns, which are employer branding and candidate experience, as job seekers are becoming increasingly critical of the fairness and humanity of the recruitment process.

The literature further indicates that although there is growing interest in AI-enabled HRM, empirical insights remain scattered across disciplines. According to Tambe et al. (2019), research on AI in HRM is divided among 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 demonstrate that public-sector research has its own major concerns about justice, legitimacy, and public accountability, which are the very aspects that are usually underrepresented in the private-sector literature.

This division of studies can be most clearly seen in the issues of recruitment fairness and candidate experience. While a lot of research discusses the operational advantages of AI in the recruitment process, such as speed, efficiency, and reduced workload, little is known about its impact on perceptions of fairness, trust, and the organization's attractiveness. Candidate experience research is a far more neglected area than the large and growing field of AI technical capability studies. Geetha and Bhanu (2018) concede AI's efficacy but pay little attention to candidates' perceptions. Islam et al. (2022) point out that although AI tools assist organizations in managing large applicant pools, fairness and transparency concerns may deter qualified candidates from applying. The same can be said of the recruiter-focused studies (Lacroux& Martin-Lacroux, 2022), which reveal behavioral tensions. However, 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 relies on theoretical reasoning, case studies, or small-scale empirical research, thereby providing very limited insight into shifts in academic attention over time, the field's dominant themes, and research gaps. A bibliometric approach is the right method to close this gap. Through the analysis of publishing trends, the identification of key authors and journals, and the charting of topic clusters, bibliometric analysis presents a comprehensive view of progress in that field. This type of analysis assists in pointing out the direction of past AI in HRM research, particularly 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 potential for further inquiry.

Interest in AI-enabled recruitment has been growing among academics and practitioners alike. However, there is still no large-scale bibliometric analysis uncovering the intellectual landscape of AI, fairness, and candidate experience within HRM. The existing reviews are generally narrative or conceptual and thus have no structured evidence on publication growth, citation patterns, influential contributions, or thematic mapping. As organizations continue to integrate AI-powered hiring solutions, it is necessary to recognize the field's evolution to guide responsible innovation, regulate development, and conduct empirical work in the future. Consequently, the current study aims to fill this gap by conducting 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 future research directions. Thus, the research provides a unified view of how scholarly work in this domain has evolved and which areas still require further research.

Methodology:-

In this study, a bibliometric method was employed to monitor the development of AI research in HRM, particularly regarding recruitment fairness and candidate experience. Data were collected from the two major academic databases, Scopus and Web of Science (WoS), thereby ensuring full coverage of peer-reviewed literature across 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 discriminationOR "ethical hiring")No specific time limit was set; to illustrate the field's development, all years through 2025 were included. The joint search in Scopus and WoSreturned 2,438 records. 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 AI applications in HRM, especially recruitment,

selection, fairness, or candidate experience. Conference papers, reviews, book chapters, non-English publications, and studies unrelated to HRM or hiring contexts were among the categories of items excluded by the exclusion criteria. The resulting dataset comprised 1,000 articles after eliminating duplicates across the different databases (n = 605) and non-eligible items 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. Additionally, the web-based Bibliometrix Excel interface generated descriptive indicators, including annual publication trends, high-impact journals, prominent authors, and citation patterns. The combined utilization of these instruments gave a comprehensive mapping of the intellectual structure and thematic development of the field.

Results:-

Citation analysis:-

Annual no of publications:-

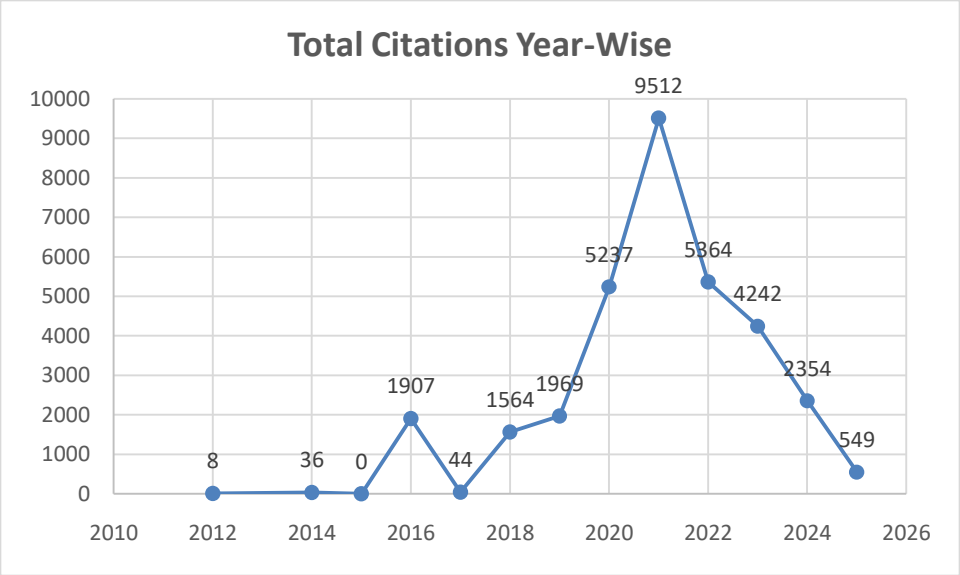
The publication timeline, shown in Table 1, reveals a significant and uninterrupted increase in scholarly interest over the years. The period 2012-2017 was rather uneventful for the domain, with an average of fewer than 5 papers published annually. In 2018, the activity began to increase gradually, starting with 20 publications, then soaring 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 was a slight decline in 2023, the overall trend remained clearly upward. A notable surge is anticipated in 2024 and 2025, with counts of 184 and 279 publications, respectively, representing the peak for the entire dataset. This increase in numbers points to the acceleration of existing interest from both academia and industry; moreover, it signals 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 from the publication volume does. The year 2016 stands out for a high citation count of 1,907, perhaps due to one or two outstanding works that influenced early conversations in the area. The second-largest citation peak occurs in 2021, when 124 papers garnered 9,512 citations, making it the most influential year overall. Other citation-rich years include 2020 (5,237 citations), 2018 (1,564 citations), and 2019 (1,969 citations), indicating that publications from these years remain relevant to current research. On the other hand, publication figures show a significant increase in 2024 and 2025. However, the corresponding citation counts are much lower (2,354 and 549, respectively), as expected given the newness of these papers. As a whole, the trends indicate that the research field has experienced a rapid rise in publications, but the intellectual foundation was laid 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. At the top of the list is Ricardo Vinuesa et al. (2020), with 2030 citations, which is a sign of their foundational contribution to the topic of Sustainable Development Goals through AI. Likewise, Janiesch, Zschech, and Heinrich (2021) are in the same position, with 2084 citations, making them the most influential in providing insights into 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 as the 'invisible hand' of multidisciplinary AI research. Speaking of fairness and algorithmic ethics, 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-tier 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 clearly illustrates the concentration of impact, primarily observed in the uppermost tier of journals. Nature Communications and Nature Biomedical Engineering are the two journals with the highest citation counts among their articles, reflecting the greatest global visibility and interdisciplinary reach. The International Journal of Information Management and Electronic Markets, which has been the primary publisher of these papers, is the most-cited journal in the fields of Artificial Intelligence and digital transformation studies. The number of citations per paper has exceeded 2,000, placing it among the leading journals in this field. Journals that are primarily focused on ethics, such as the Journal of Business Ethics, AI & Society, AI and Ethics, and ACM Computing Surveys, also exhibit significant impact, indicating the academic community's shift toward a critical perspective on issues of fairness, transparency, discrimination, and algorithmic accountability. On the other hand, journals in the social science and technology fields, such as Big Data & Society, PLOS ONE, and Information Systems Frontiers, are also regularly present in the dataset, which confirms their role as facilitators of 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& 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-Jiménez et al. (2021)	Sustainability	190
Vanin (2021)	AI & SOCIETY	219
Chaudhry & 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 &Kavathatzopoulos (2024).	BMJ (Clinical research ed.)	888
Reddy Sareddy & Farhan (2022).	Journal of Business Ethics	230
Yaroson et al. (2020).	Journal of Business Ethics	365
Pessach& Shmueli (2022).	ACM Computing Surveys	378
Pandey (2023)	Nature biomedical engineering	359

Bibliographic Coupling:-

Top Journals based oncitation:-

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 clearly indicates that AI & Society is the journal with 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 research on 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 are journals such as Business Ethics Quarterly, Therapeutic Advances in Drug Safety, and the International Journal of Advanced Research, which are powerful yet highly specialized in their fields. Their citation connections (highlighted in green) point back to AI & Society, signaling that AI-related ethical issues extend to AI domains such as bioethics, healthcare AI, and organizational ethics. Therefore, it can be said that AI & Society is definitely the most-cited and most-central journal in the field, and the interdisciplinary journals alongside it are increasingly discussing and writing about the ethical, social, and managerial implications of AI, which, by the way, was the major factor in their grouping.

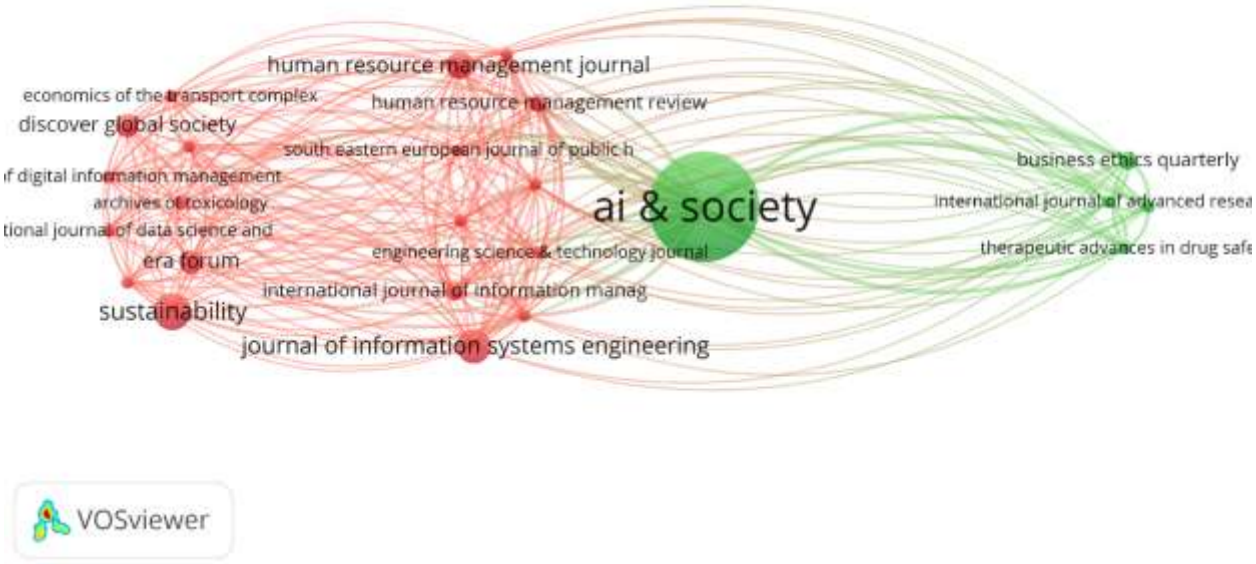


Figure 1. Bibliographic Coupling of Top Journals

Top Authors based oncitation:-

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 largest and most central node, which indicates extraordinarily high citation counts and broad co-citation with other prominent scientists. Additionally, Anu Gokhale, Tae Wan Kim, and Bryan Routledge are identified in this cluster, indicating their considerable academic impact, particularly in 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 among the most significant; they all have very high co-citation rates within their respective topics. The strong interconnectedness among the researchers indicates a solid common research foundation in this cluster, but also a lower worldwide citation impact compared to the green cluster leaders. In conclusion, Nishad Nawaz stands out as the most-cited and most central author in the network, and his influence on the research domain is significant. Other authors are important to their clusters as well, but their citations are limited to a narrower scope and a more specialized area.

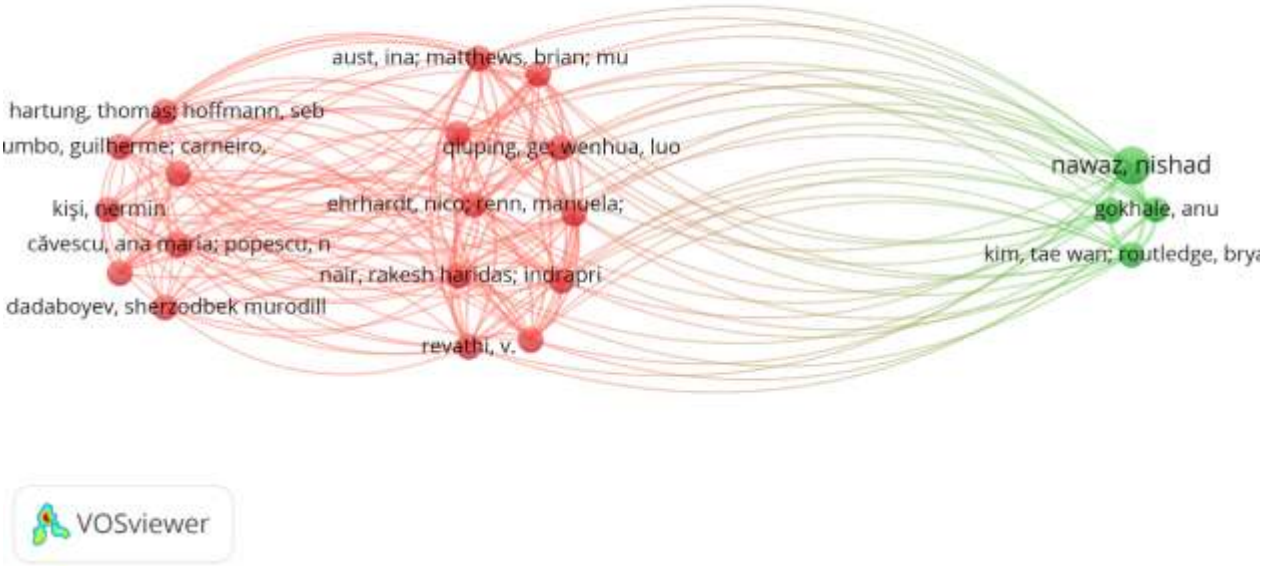


Figure 2. Bibliographic Coupling of Top Authors

Bibliographic coupling of countries:-

The connection between countries based on their shared references is represented in the bibliographic coupling network depicted in Figure 3. Larger nodes represent countries with higher research output, while thicker lines between the nodes represent stronger coupling. The map showcases two distinct clusters with different scenarios for collaboration and research influence. On the right, the green cluster comprising Sweden, Canada, and Switzerland is clearly the strongest in terms of bibliographic coupling. The three countries exhibit the most consistent patterns of cross-citations. They are tightly grouped, suggesting a common intellectual basis and a significant degree of methodological and thematic alignment in their research. Their position and link strength indicate that they are knowledgeable and well integrated into the field's core knowledge structure. The red cluster on the left comprises 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 distinct research traditions and a somewhat fragmented thematic focus. Within this cluster, Germany and Spain serve as connecting nodes, indicating relatively stronger integration with the global literature and broaderaccess to citations. 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, implying that its research draws on and contributes to several knowledge streams across regions.

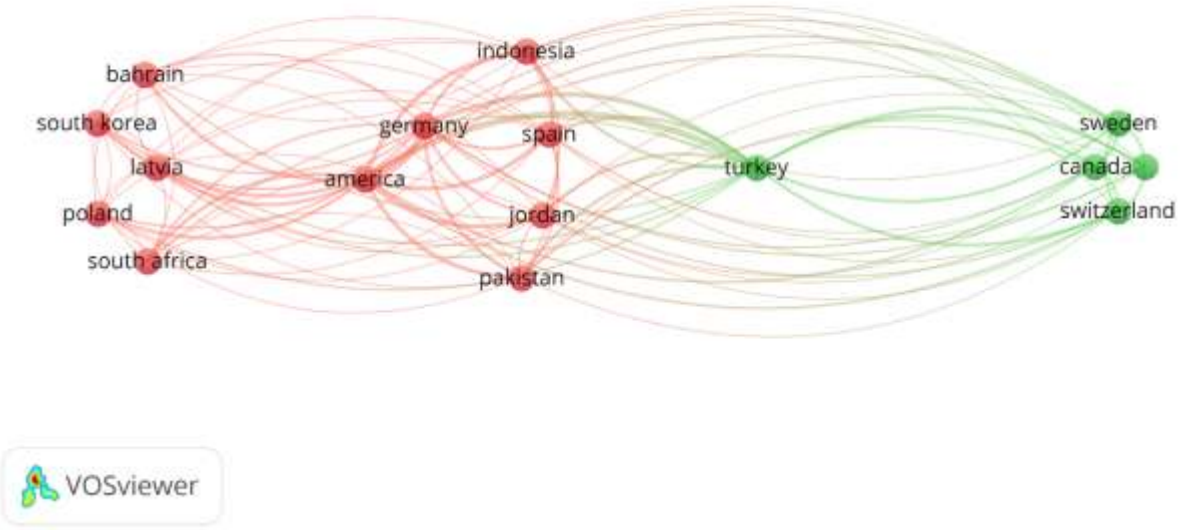


Figure 3. Bibliographic Coupling of Top Countries

Bibliographic coupling of Author keywords:-

The map in Figure 4 presents the bibliographic coupling of the authors' keywords. It demonstrates the degree of co-citation among different concepts, as well as the major research areas they are associated with. The size of each node represents the frequency of each keyword, and the color-coded clusters indicate the main thematic areas. The density and thickness of the connecting lines represent the strength of the conceptual linkages within the field. The term "artificial intelligence" at the center of the map is the strongest node, 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 keywords that highlight fairness, discrimination, and transparency as the dominant issues in 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 growing academic interest in AI explainability and the deployment of AI systems in sensitive, high-stakes situations. A distinct red cluster shows strong allegiance to HR and organizational applications, and HR, recruitment, talent management, performance management, innovation, and Industry 4.0 are the main keywords associated with it. The close-knit relationships among the researchers in this area suggest that they are deeply involved in studying AI's influence on workforce management, HR decision-making, and organizational processes. The purple cluster represents the bigger picture of management issues and COVID-19, where the pandemic has, to a great extent, driven digital transformation and the use of algorithms in workplaces.

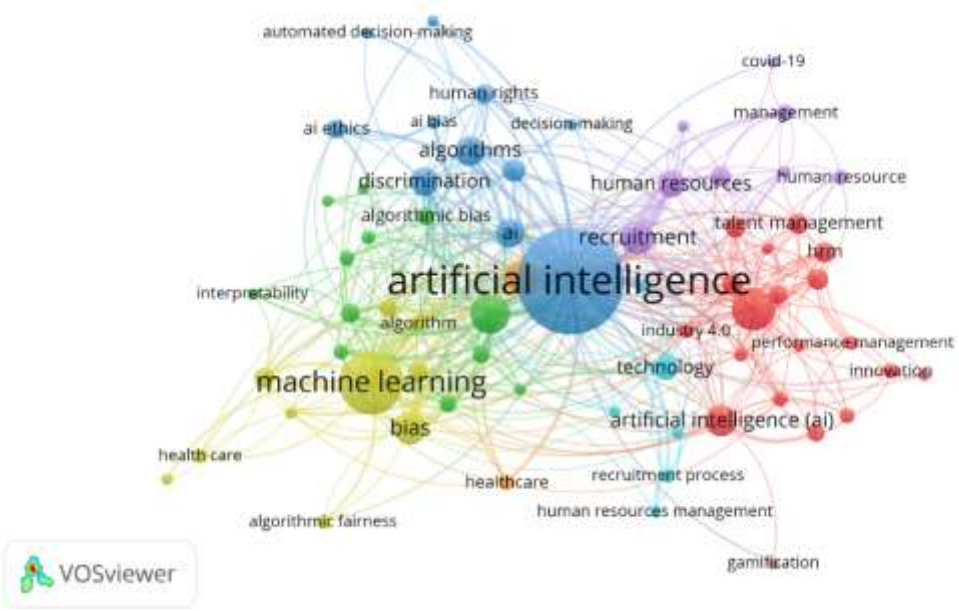


Figure 3. Bibliographic Coupling Author Keywords

Future Directions:-

Multiple directions for further research have been identified through this bibliometric analysis. First, the upcoming researchers have to present applicants' feelings about the AI-based hiring process as the primary evidence. A considerable portion of the existing literature focuses on productivity and mechanization. In contrast, the other side has either very little or no information at all about the applicants' views on fairness, trust, and transparency when evaluated by algorithms. Large-sample surveys, along with experiments and industry comparisons, could all be instrumental in determining whether and to what degree different consumer groups accept decisions derived from AI. The issue of explainability and transparency in the recruitment process for both candidates and recruiters has already been identified as important and requires immediate attention. More advanced AI systems are closely related to understanding users' information needs and how that understanding will affect their trust, perceived fairness, and acceptance. A possible theme for future research could be the study of varied system feedback from simple explanations to fully interpretable models.

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

Fifth, future work should examine the social and psychological aspects of AI-enabled hiring. The candidates' digital literacy, expectations, and emotional responses may largely determine their acceptance of AI-driven processes. 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 need 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 simultaneously across several places with varying cultural norms and technological maturity, one will certainly gain deeper insight and contribute to the development of fairer, more open hiring ecosystems.

Discussion:-

The study's bibliometric patterns show that the field has been rapidly growing in both the volume and diversity of concepts, yet it has also experienced fragmentation and uneven thematic development. The increase in publications after 2018 indicates the global trend towards data-driven HRM and the widespread use of AI-enabled hiring technologies. Much of this growth aligns with previous conceptual arguments that predicted improvements in efficiency, predictive accuracy, and the strategic HRM roles of AI (Strohmeier & Piazza, 2015; Jain, 2018). However, alongside the field's development, critical perspectives on fairness, transparency, discrimination, and algorithmic accountability have also grown significantly. The citation count mainly rises in the years 2016— 2021, and especially for 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 were attracting immense 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 posed by AI systems (Santoso et al., 2024, etc.) made clear the lack of adequate institutional support for organizations' AI-based power when they opt for methods such as algorithmic hiring.

An illustration of the bibliographic coupling of journals indicates that AI & Society is the main intellectual center of the discipline. The journal's position at the core demonstrates that ethical, sociotechnical, and justice-oriented views dominate the field. The more distant journals, such as Journal of Business Ethics, Big Data & Society, and International Journal of Information Management, point to a rapprochement between management studies, digital ethics, and information systems research that is in the making. This scenario depicts how the discipline that essentially addresses technical issues has matured into a multi-disciplinary conversation concerning human impacts, the legitimacy of the institution's actions, or the practices of responsible innovation. The author-coupling network fully supports the dual structure of the discipline: one group of researchers who are mainly devoted to discussions of ethical, fairness, and socio-technical risks, and the other dealing with organizational adjustment, HRM transformations, and building digital capability. In this scenario, the most significant works on candidate perceptions, trust, and recruiter behavior remain quite limited. To some extent, studies like that of Lacroux and Martin-Lacroux (2022) highlight tensions in the recruiter-AI interaction; however, they do not delve deeply into candidate-facing outcomes. Such a situation creates a mismatch between the discussions and the very limited empirical research on the human aspects, trust, and psychological responses to AI-mediated hiring; hence, there is a clear 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, nations classified as developing are the ones that most likely adopt new technologies and modernize human resource management (Islam et al., 2022). The above-mentioned division indicates that technological preparedness, regulatory environments, and labour market characteristics, among others, influence research priorities worldwide. In addition, it points out that the notions of justice and candidate experience may differ across cultures, which can justify the need for 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 the acceptance of fairness issues as a core concern rather than a peripheral one. However, the relatively few keywords closely associated with “candidate experience,” “trust,” or “transparency” suggest that academics have not fully recognized the experiential side of AI hiring.

The total bibliometric data depicts a vibrant but unevenly distributed field. The ethical and technical controversies constitute the major areas of interest, while there is a scarcity of empirical studies on candidates, organizational behavior, and real-world implementation practices. Cross-pollination between fields remains largely limited, with management, computer science, psychology, and law offering parallel discussions rather than fully interlinked ones. This separation underscores the need for more comprehensive, interdisciplinary strategies that integrate ethical theory, HRM practice, technological design, and user-centric perspectives.

Conclusion:-

The research has mapped the intellectual structure, thematic evolution over time, and citation dynamics of studies addressing AI's role in recruitment fairness and candidate experience. The bibliometric data reveal that the field of AI-supported Human Resource Management has attracted considerable scholarly attention since 2018, with publications and citations becoming more frequent and appearing more quickly across disciplines. The most important papers published between 2016 and 2021 played a major role in the conceptual development of the field, particularly regarding 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 leading hubs and have been influential in debates on socio-technical implications, digital ethics, and HRM transformation.

The research reveals a domain that, although very different, remains partitioned across writers, journals, nations, and keywords. Amongst the discussions, the ethical and methodological issues take the lead, while the empirical studies on the candidates, their trust, and personal experiences with AI-powered hiring remain scarce. The countries' patterns also indicate that global participation is unequal, with developed countries focusing on governance and fairness, while developing ones focus on adoption, efficiency, and workforce training. The occurrence of words such as “bias,” “algorithmic bias,” “machine learning,” and “recruitment” suggests that fairness has been a major research concern. However, the experiential and behavioral dimensions continue to receive very little systematic attention.

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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