**AI-Powered Research Paper Analysis**

Research Paper Selected:

Is artificial intelligence (AI) research biased and conceptually vague? A systematic review of research on bias and discrimination in the context of using AI in human resource management

LINK: <https://www.sciencedirect.com/science/article/pii/S0160791X25000089>

**Copilot**

### Key Findings

The paper presents a systematic review of 64 research papers on bias and discrimination in AI, specifically within the context of human resource management (HRM). The findings highlight that:

* Many papers do not clearly define the terms "bias" and "discrimination".
* There is a disproportionate focus on racism (bias related to skin tone) and sexism (bias related to gender).
* Research is relatively balanced between studies showing positive effects of AI on reducing bias and those showing AI exacerbating bias.

### Methodology

The review follows the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines. It aims to answer three main questions:

1. How are "bias" and "discrimination" defined in the research?
2. Which forms of bias and discrimination are being investigated?
3. Is there a negativity bias in the research on AI and bias?

### Limitations

* Lack of clear definitions for key terms.
* Overemphasis on certain types of bias, potentially neglecting other important forms.
* The need for more comprehensive definitions and balanced research focus.

### Comparison to Existing Studies

Compared to existing studies, this paper emphasizes the conceptual vagueness and lack of clear definitions in AI research on bias. It also points out the need for a more balanced approach to studying both positive and negative impacts of AI on bias and discrimination1.

### Future Improvements

To improve future research, the paper suggests:

* Clearly defining "bias" and "discrimination" in research studies.
* Expanding the scope to include underrepresented forms of bias and discrimination.
* Encouraging more balanced research that considers both the positive and negative effects of AI on bias.

**Perplexity AI**

Key Findings

A systematic review of research on bias and discrimination in the context of using AI in human resource management.

* A substantial number of papers do not define the terms bias and discrimination.
* There is a disproportionate focus on bias and discrimination related to skin tone (racism) and gender (sexism).
* There isn’t a strong negativity bias; research is relatively balanced between positive and negative effects of AI on bias and discrimination.

Methodology

* Systematic Review: The study uses the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) framework.
* Phases: The Review involves four phases: (1) Identification,(2) Screening,
* (3) Eligibility and (4) Inclusion.
* Data Sources: Web of Science Core Collection, Scopus, IEEE Xplore Digital Library, Science Direct and ProQuest.

Limitations

The search was limited to papers that discuss bias, discrimination and AI in the context of Human Resources Management (HRM).

Comparison to Existing Studies

The paper references the Standard University Artificial Intelligence Index Report 2022, noting an increase in research on fairness and transparency in AI since 2014.

It also mentions scholars suggesting more attention is given to the drawbacks than the benefits of AI (Jecker and Nakazawa, 2022).

Suggestions for Future Improvements

The paper suggests that there is a systematic research deficit that needs to be eliminated and that future research should address the underrepresentation and overrepresentation of certain forms of bias and discrimination. Future research should fill this gap in the literature and make sure that future provides a more balanced and constructive perspective on AI’s role in society.

**Chat GPT**

#### **Key Findings**

* **Lack of Clear Definitions:** Many research papers on AI in Human Resource Management (HRM) do not explicitly define the terms "bias" and "discrimination," making comparisons difficult.
* **Overrepresentation of Certain Biases:** The review found that most studies disproportionately focus on gender and racial biases, with less attention to other forms like age, disability, or socioeconomic biases.
* **Balanced Perspective on AI's Impact:** Contrary to expectations, there is no strong negativity bias in research. Studies are fairly balanced between examining AI as a tool that mitigates bias versus AI exacerbating bias.
* **Diverse Topics Discussed:** AI bias and discrimination studies explore multiple forms of bias, but some areas (e.g., cultural and religious bias) remain underexplored.
* **HRM as a Crucial AI Ethics Arena:** Given AI’s growing role in hiring and HR processes, addressing these biases is essential for ethical AI development.

#### **Methodology**

* **Systematic Literature Review:** The study followed the **Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA)** framework.
* **Database Search:** Sources included Web of Science, Scopus, IEEE Xplore, ScienceDirect, and ProQuest.
* **Screening Process:** A total of **317 papers** were initially identified, and **64 papers** were included after filtering based on relevance, peer-review status, and accessibility.
* **Content Analysis:** Publications were categorized based on the definitions provided for bias/discrimination, themes discussed, and whether they emphasized positive or negative AI implications.

#### **Limitations**

* **Scope Limited to HRM:** The study only reviewed AI bias within HRM, so findings may not generalize to other fields like healthcare or law.
* **Underrepresentation of Certain Biases:** While the study identifies gaps in bias research, it does not deeply analyse why some biases (e.g., age or disability) are underexplored.
* **Potential Publication Bias:** The focus on peer-reviewed sources may exclude industry reports, non-academic studies, or unpublished research that could offer valuable insights.
* **Search Constraints:** The review only considered papers published in English, potentially overlooking relevant research in other languages.

### **Comparison with Existing Studies**

* **More Systematic than Previous Reviews:** Unlike prior reviews, this study strictly follows PRISMA, ensuring a structured and replicable analysis.
* **Challenges Assumptions About AI Negativity Bias:** While some prior studies argue that AI bias research is overwhelmingly negative, this paper provides evidence of a more balanced discussion.
* **Highlights Conceptual Gaps:** Compared to other works that focus on AI’s technical biases, this study uniquely critiques the vagueness in defining "bias" and "discrimination" in HRM research.
* **Identifies Research Gaps:** While earlier studies discuss AI-driven HR bias, this review systematically maps which forms of bias are over/underrepresented.

### **Future Research Recommendations**

* **Expand beyond Gender and Racial Bias:** Future studies should investigate biases related to **age, disability, religion, and socioeconomic status** in AI-driven HRM.
* **Develop Standardized Definitions:** Clear, universally accepted definitions of "bias" and "discrimination" are needed to improve comparability across studies.
* **Include a Broader Range of Studies:** Incorporating industry reports and non-English research could provide a more comprehensive understanding.
* **Investigate AI Bias Across HRM Subfields:** Further research should examine bias in specific HR tasks like **promotion decisions, salary negotiations, and employee monitoring**.
* **Examine Bias Mitigation Strategies:** More empirical studies should evaluate whether current AI fairness solutions (e.g., bias audits, fairness-aware algorithms) effectively reduce discrimination.