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Employee involvement in AI-driven HR decision-making: A systematic review

Authors:
Wui San Taslim[1,2]
Titik Rosnani[2]
Rizky Fauzan[2]

Affiliations:
[1]Department of Creative Business, Faculty of Business and Management, Polytechic of Tonggak Equator, Pontianak, Indonesia

[2]Department of Management, Faculty of Economics and Business, Tanjungpura University, Pontianak, Indonesia

Corresponding author:
Wui San Taslim,
wuisan@polteq.ac.id

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Orientation: The integration of artificial intelligence (AI) into human resource management (HRM) is transforming decision-making processes and employee involvement.

Research purpose: This study examines AI-driven decision-making in HRM, with a focus on employee involvement and ethical challenges.

Motivation for the study: As AI adoption in HRM rapidly grows, it is crucial to understand its implications for organisational practices and employee experiences.

Research approach/design and method: This study conducted a systematic review of 193 peer-reviewed articles (2019–2023), employing cluster analysis to identify four key themes in AI-driven HRM.

Main findings: The study identifies four clusters: AI adoption, highlighting employee involvement in smooth transitions; AI Ethics, focussing on transparency and fairness; AI-driven human resource decision-making, showing enhanced recruitment and performance management; and AI performance, emphasising operational efficiency through AI systems.

Practical/managerial implications: The findings highlight the role of employee involvement in successful AI transitions, emphasising its impact on acceptance and operational success.

Contribution/value-add: This review also suggests future research directions, emphasising the need to explore AI's long-term impacts on organisational culture and employee satisfaction.

Keywords: artificial intelligence; human resource management; employee involvement; decision-making systems; ethical AI; recruitment automation; organisational performance; systematic literature review.

Introduction

The integration of artificial intelligence (AI) into human resource management (HRM) has gained significant momentum in recent years, fundamentally transforming organisational decision-making processes. As AI technologies become increasingly prevalent across various human resource (HR) functions, they offer new opportunities to enhance efficiency, streamline processes and provide data-driven insights (Tambe et al., 2019). However, this technological shift also prompts a re-evaluation of traditional HRM paradigms, necessitating a deeper understanding of its implications, challenges and opportunities (Vrontis et al., 2022). Specifically, AI's impact on decision-making processes and employee involvement in HRM has raised new questions about the ethical dimensions of AI use, the role of human judgement and the evolving nature of work (Arslan et al., 2022).

Artificial intelligence adoption in HRM has the potential to revolutionise key HR functions, such as recruitment, performance management and workforce planning, by utilising advanced algorithms to enhance accuracy and efficiency. For example, AI-driven recruitment systems can help screen candidates more effectively (Pereira et al., 2023), predictive analytics tools can forecast employee turnover (Bankins, 2021) and machine learning algorithms can assist in performance evaluations (Einola & Khoreva, 2023). These advances challenge traditional notions of employee engagement, performance evaluation and career progression, requiring organisations to rethink how they attract, develop and retain talent in an AI-augmented workplace (Pereira et al., 2023).

However, as organisations increasingly adopt AI technologies to enhance their HR practices, there is a growing need to critically examine the impact of AI on employee involvement and organisational culture (Malik et al., 2022). While AI promises greater efficiency and precision, concerns about ethical implications such as algorithmic biases, privacy violations and data transparency have emerged as key challenges (Chowdhury et al., 2023). In addition, the evolving role of AI in HR raises important questions about the balance between human oversight and machine intelligence, particularly when making critical decisions that affect employees' careers, well-being and personal data (Bankins, 2021).

Despite the growing body of research on AI in HRM, a significant gap exists in the literature, particularly regarding the integration of AI with employee involvement in decision-making processes (Pan et al., 2022). Most studies have primarily focussed on the technical aspects of AI, such as algorithmic efficiency and automation, but less attention has been given to understanding how employees engage with these AI systems and how their involvement can influence the success of AI-driven decision-making (Prikshat et al., 2023). This gap is further compounded by the fragmented nature of AI research across disciplines, including computer science, organisational psychology and management studies, which complicates the development of cohesive frameworks for understanding AI-human collaboration in HRM (Jatobá et al., 2023).

The purpose of this systematic review is to address these gaps by synthesising the current state of AI-driven HR decision-making, with a particular focus on employee involvement. This review aims to identify patterns and strategies in AI adoption for HRM, assess the ethical challenges and risks associated with AI integration and provide practical recommendations for optimising employee participation in AI-driven HR processes. The study will also explore the long-term impacts of AI adoption on organisational culture, employee satisfaction and overall HR effectiveness, and will suggest future research directions to better understand the role of AI in shaping the future of work.

This review makes a unique contribution by offering a new ethical framework for AI in HRM, based on a comprehensive analysis of existing literature and by emphasising the importance of employee involvement in the adoption and implementation of AI technologies in HR. By addressing these research gaps, the review seeks to provide valuable insights for HR professionals and organisations looking to navigate the complex landscape of AI-driven HRM.

Literature review

The integration of AI in HRM has sparked substantial scholarly interest, as AI technologies continue to evolve and influence various HR functions. This section reviews the existing literature on AI applications in HRM, focussing on key themes, challenges and research gaps.

Artificial intelligence adoption in human resource management

The adoption of AI in HRM has become a prominent research area, with studies emphasising both the opportunities and challenges the organisations face when implementing AI systems. Successful AI adoption requires strategic alignment with HR goals, as highlighted by Tambe et al. (2019), who stress the importance of integrating AI into organisational frameworks for effective decision-making. Kshetri (2020) further illustrates how AI adoption in HRM varies across cultural and organisational contexts, particularly in emerging economies, where infrastructural and cultural factors play a significant role in shaping AI implementation. This research underscores the global relevance of AI adoption in HRM and its potential to transform traditional practices.

Several studies have also explored the organisational readiness required for AI adoption in HRM. Aydın and Turan (2023) identified technological infrastructure, HR staff's AI literacy and cultural preparedness as key factors influencing the success of AI integration. Furthermore, Chowdhury et al. (2023) emphasise the need for effective change management strategies to overcome resistance from HR professionals and employees. Alnamrouti et al. (2022) argue that strong leadership support and cross-functional collaboration are essential for AI adoption to succeed. These findings point to the importance of human factors and organisational alignment in the AI adoption process, highlighting the role of employee involvement as a central factor in achieving successful integration.

Artificial intelligence applications in human resource functions

Research on AI applications in HR functions has been extensive, with various studies examining how AI technologies are reshaping HRM practices. Artificial intelligence has been particularly impactful in recruitment and selection process, where Nawaz (2019) observed that AI systems in the Indian software industry help reduce human intervention in candidate screening, thereby enhancing efficiency. Ore and Sposato (2022) not only highlighted the benefits of AI in recruitment, such as bias reduction and time efficiency, but also cautioned against the risks of algorithmic bias that may affect fairness in decision-making.

In performance management, Tong et al. (2021) explored how AI-driven feedback systems positively impacted employee performance by providing real-time insights. Similarly, Choi and Choi (2021) examined the role of machine learning in predicting job involvement, demonstrating AI's potential to support more personalised HR interventions. These studies suggest that AI can not only optimise HR processes but also emphasise the need for human oversight to avoid potential pitfalls, such as over-reliance on automated systems.

Ethical considerations in artificial intelligence-driven human resource management

The ethical implications of AI in HRM have become a major focus of recent research. Bankins (2021) proposed a decision-making framework for ethical AI use in HR, stressing the need for fairness, transparency and accountability in AI-driven processes. Rodgers et al. (2023) extended this discussion by developing an algorithmic approach to ethical decision-making, which ensures that AI systems operate in compliance with organisational values and ethical standards. Ethical concerns such as privacy protection and algorithmic bias are central to the debate, with Frissen et al. (2022) exploring how AI systems can be designed to avoid discrimination and promote equal opportunity.

Jetha et al. (2021) examined the long-term societal implications of AI in HR, particularly its potential impact on employment patterns and workplace inequalities. These studies highlight the importance of embedding ethical considerations into the design and implementation of AI systems, ensuring that organisations can benefit from AI without compromising fundamental human rights.

Impact on human resource professionals and employees

The integration of AI into HR functions has also had a significant impact on HR professionals and employees. Malik et al. (2022) investigated how AI adoption in Industry 4.0 has transformed the roles of HR professionals, creating not only new opportunities for growth but also presenting challenges related to skill adaptation. Ardichvili (2022) discussed the implications of AI on expertise development, emphasising the need for HR professionals to adapt to new technological demands. These findings suggest that AI is reshaping HR practices by creating new roles and requiring HR professionals to develop new competencies, particularly in areas related to data analysis and AI management.

Furthermore, Malik et al. (2023) identified the importance of continuous learning and development for HR professionals to ensure that they remain competitive in an AI-augmented workplace. Human resource leaders are urged to rethink their training and career development strategies in response to the growing role of AI in HR functions.

Research gaps

While the existing literature provides valuable insights into AI-driven HR decision-making, several research gaps remain. One significant gap is the lack of longitudinal studies that examine the long-term effects of AI adoption on organisational culture and employee satisfaction (Weber, 2023). In addition, Pan et al. (2022) pointed out the overrepresentation of Western contexts in AI-HR research, which limits our understanding of how AI is adopted and implemented in diverse cultural settings.

Furthermore, the issue of employee involvement in AI-driven decision-making processes has received limited attention. While some studies, such as Agarwal (2022), have discussed employee perceptions of AI, further research is needed to explore mechanisms for meaningful employee input in AI-driven decisions. Specifically, research should focus on:

Participatory design, as highlighted by Prikshat et al. (2023), and feedback loops proposed by Ardichvili (2022) as mechanisms for fostering employee input in AI decisions.

Employee involvement in AI-driven HRM remains underexplored, with Agarwal (2022) highlighting perceptions of AI and Basu et al. (2023) advocating co-creation models for inclusive decision-making.

The interaction between employee perceptions of AI and organisational outcomes (Ardichvili, 2022).

This systematic review seeks to address these gaps by synthesising the current state of AI in HRM, with a particular focus on employee involvement and ethical considerations. By exploring these under-researched areas, the review aims to contribute to the ongoing discourse on AI in HRM and provide practical recommendations for organisations looking to implement AI systems in a responsible and employee-centric manner. Future research should examine how employee involvement affects the acceptance and effectiveness of AI applications, as suggested by Basu et al. (2023).

Methodology

Systematic literature review approach

This study employs a systematic literature review (SLR) methodology to comprehensively synthesise the body of knowledge surrounding AI-driven HR decision-making. The systematic review was chosen for its rigorous, transparent and replicable process, ensuring the minimisation of bias and enhancing the credibility of the findings (Tranfield et al., 2003). The SLR was structured around the following stages:

Planning the Review: A clear review protocol was established, which outlined the following critical components:

Research Questions: Focussed on identifying patterns in AI adoption within HRM, challenges related to ethical implementation and the role of employee involvement in AI-driven decision-making.

Search Strategy: Specific search terms related to 'artificial intelligence', 'HR decision-making' and 'employee involvement' were selected. Boolean operators were used to combine these terms effectively.

Inclusion and Exclusion Criteria: Only peer-reviewed articles from 2019 to 2023 were included, with exclusions for studies focussing solely on the technical aspects of AI without HR context.

Data Extraction Methods: A standardised extraction form was developed, capturing relevant data such as study objectives, methodologies, key findings and implications for HRM practices.

Conducting the Review:

Systematic Search: A comprehensive search was conducted on the Scopus database, which was selected for its multidisciplinary coverage of peer-reviewed literature across the social sciences and business domains. The search was structured around defined keywords and Boolean operators to ensure that relevant studies were captured (Mishra et al., 2021).

Study Selection: Two independent reviewers screened the titles and abstracts of the identified studies against predefined inclusion criteria. Any discrepancies between the reviewers were resolved through discussion. After initial screening, 193 studies were selected for full-text assessment (Votto et al., 2021).

Quality Assessment: Selected articles underwent a quality assessment to ensure inclusion of studies with methodological rigour. A standardised quality assessment tool was applied to rate the reliability and validity of the studies (Strohmeier, 2022).

Data Extraction: Key data points were extracted using a structured form that captured important study characteristics, methodologies used, findings and implications for HR practices (Nosratabadi et al., 2022).

Reporting and Dissemination:

Narrative Synthesis: Data were synthesised qualitatively through narrative synthesis, guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. The PRISMA checklist ensured that the systematic review followed established standards for transparency and comprehensiveness (Haddaway et al., 2022).

Rayyan Software: The Rayyan Software (developed by Rayyan Systems, Inc., Cambridge, MA, US) was used to facilitate the screening and reviewing process, ensuring efficiency and consistency in the selection of articles (Olatinwo & Joubert, 2022).

Content analysis process

To analyse the selected studies, both qualitative and quantitative content analysis approaches were used, ensuring a comprehensive understanding of key themes and trends in AI-driven HR decision-making. These approaches included:

Coding Scheme Development: A preliminary coding scheme was developed based on the research questions and an initial reading of a subset of articles. This scheme was refined through multiple rounds of discussions within the research team, ensuring alignment with the study's focus on AI in HRM and employee involvement (Chakraborty et al., 2020).

Iterative Refinement: The coding scheme was iteratively adjusted to ensure that it comprehensively captured all relevant themes related to AI adoption, ethical concerns and employee involvement. It was aligned with the research objectives and ensured the identification of emergent sub-themes.

Coding Process: Two trained coders independently analysed the full-text of each article using the developed coding scheme. A double-coding strategy was employed on 20% of the articles to assess the reliability and consistency of the coding. Cohen's kappa coefficient ($\kappa > 0.80$) was used to evaluate inter-coder reliability (Landis & Koch, 1977).

Thematic Analysis: Using an inductive approach, emergent themes and sub-themes were identified across the coded data. This involved a detailed reading and interpretation of the coded data to uncover patterns and relationships related to AI-driven HR decision-making and employee involvement (Manuti & Monachino, 2020).

Quantitative Content Analysis: Frequency analyses of coded categories were conducted to identify prevalent themes and trends across the literature. This quantitative approach helped to complement the qualitative analysis by providing a macro-level view of the research landscape (Garg et al., 2022).

Cluster Analysis: Hierarchical cluster analysis was used to group studies based on thematic content and methodological approaches. This was performed using Ward's method to identify distinct research streams within the literature (Ward Jr., 1963). This allowed for the identification of four key thematic clusters: AI adoption, AI ethics, AI decision-making and AI performance.

Cross-tabulation Analysis: Cross-tabulations were performed to explore relationships between different coded categories, such as how employee involvement in AI adoption relates to its success and organisational outcomes (Salepçioğlu & Sarı, 2021).

Visualisation: To enhance the interpretability of the findings, various visualisation techniques such as heat maps, network diagrams and word clouds were utilised. These visual tools helped illustrate the relationships between key themes and provided an accessible way to present complex data (Sarlis et al., 2021).

Data collection

The data collection process was designed to ensure a comprehensive and representative sample of literature on AI-driven HR decision-making. The process involved:

Scopus Database Search: The primary data source for this review was the Scopus database, selected for its extensive coverage of peer-reviewed literature across multiple disciplines. The search was structured around keywords such as 'AI', 'HRM', 'decision-making' and 'employee involvement' (Berhil et al., 2019).

Search Terms and Filters: The search included combinations of terms such as 'artificial intelligence', 'human resource management', 'employee involvement' and 'decision-making'. Filters were applied for publication dates (2019–2023) and document types (peer-reviewed articles and conference articles).

Identification and Screening: The search yielded a total of 1664 records. After removing duplicates and ineligible studies,

1654 titles and abstracts were screened. Studies meeting the inclusion criteria were selected for full-text review, resulting in 193 articles for final analysis.

Eligibility Criteria: Studies were included if they met the following criteria:

- Focussed on AI-driven HR decision-making
- Addressed employee involvement or collaboration in AI-based decision-making
- Provided empirical evidence or a theoretical framework relevant to the research questions
- Studies solely focused on AI's technical aspects without HRM context were excluded. Additionally, non-peer-reviewed sources and those lacking substantial insights into AI-HR decision-making were also removed from consideration.

PRISMA Flow Diagram: The PRISMA flow diagram (see Figure 1) was utilised to ensure transparency in the study selection process, documenting each stage from identification to final inclusion (Haddaway et al., 2022).

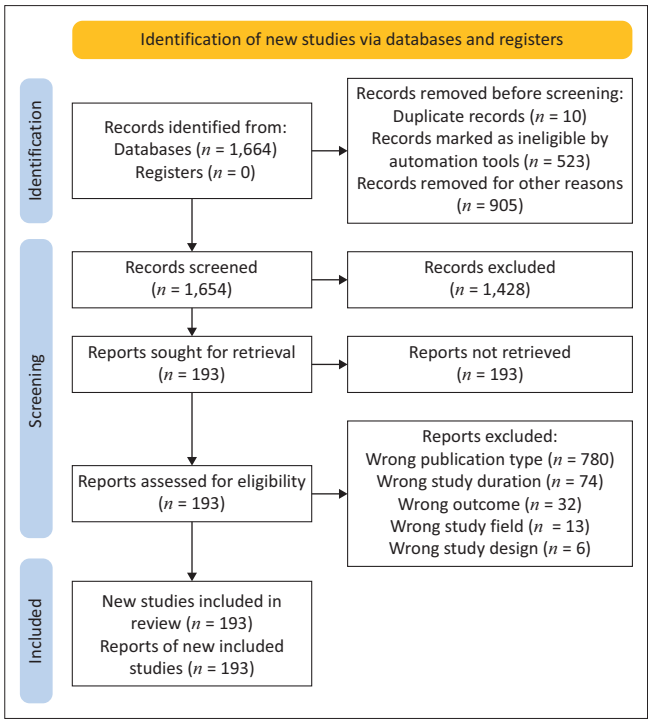
Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects. This study followed ethical research practices throughout the systematic review process.

Ethical Approval: As the study involved no direct human participants, ethical approval was not required. However, ethical research practices were rigorously followed, ensuring transparency in methodology and appropriate crediting of sources.

Data Privacy: No personal data were collected or analysed. The study adhered to all ethical standards in data handling, with full citation of sources used.

Transparency: All sources of data and references were clearly cited and credit was given to original authors, ensuring academic integrity.



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

FIGURE 1: Preferred reporting items for systematic reviews and meta-analyses flow diagram.

Results

Publication trends

The analysis reveals a significant upwards trend in publications focussing on AI-driven HR decision-making from 2019 to 2023. This growth reflects the increasing recognition of the importance of AI applications in HRM. The number of publications shows an exponential growth trajectory, with a sharp acceleration starting in 2019. This surge is likely attributed to both the practical implementations of AI in HR functions and the growing awareness of its impact on organisational processes and employee outcomes (Baldegger et al., 2020; Kshetri, 2020).

Figure 2 illustrates the number of publications per year, showing exponential growth in publications from 2019 onwards.

Four main clusters identified

Our cluster analysis identified four distinct research streams within the field of AI-driven HR decision-making. These clusters represent the dominant themes emerging from the 193 articles analysed in the systematic review (Figure 3).

Artificial intelligence adoption (89 articles, 46.11%)

This largest cluster focusses on the processes, challenges and strategies associated with AI implementation in HR departments. Key themes identified in this cluster include:

- Implementation Strategies: Studies discuss various approaches to AI adoption, including gradual versus rapid

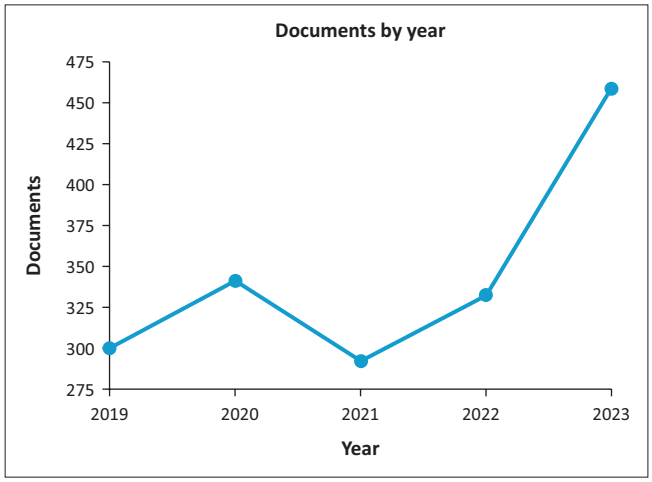


FIGURE 2: Publication trend 2019–2023 (Scopus).

integration into existing HR systems. The importance of aligning AI implementation with organisational objectives and HR strategies is emphasised (Hmoud, 2021; Islam, 2024).

Organisational Readiness: This theme highlights the need for evaluating technological infrastructure, HR staff's AI literacy and cultural readiness for AI in decision-making processes (Aydın & Turan, 2023).

Barriers and Success Factors: Resistance to change, data quality issues, and Return on Investment (ROI) justification challenges are key barriers. Conversely, success factors include strong leadership, cross-functional collaboration and continuous learning (Alnamrouti et al., 2022).

Impact on HR Roles: The emergence of new roles such as HR data scientists and the evolving strategic position of HR within organisations are discussed (Chuang, 2022; Malik et al., 2022).

Artificial intelligence ethics (22 articles, 11.40%).

This cluster focusses on the ethical implications and challenges of AI in HR decision-making. The central themes explored include:

Algorithmic Fairness: Addressing biases in AI systems and ensuring equal opportunities across diverse employee groups (Frissen et al., 2022).

Privacy and Data Protection: The ethical use of employee data in AI systems and adherence to data protection laws such as General Data Protection Regulation (GDPR) are crucial concerns (Bankins, 2021).

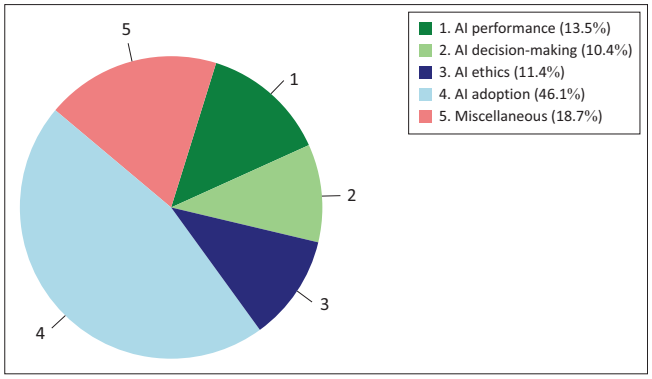
Transparency and Explain ability: Developing AI models that are interpretable and ensuring that employees understand how decisions are made (Chowdhury et al., 2023).

Ethical Framework Development: Proposing guidelines for AI ethics in HRM and establishing review processes to ensure compliance with ethical standards (Rodgers et al., 2023).

Artificial intelligence in HR Decision-Making (20 articles, 10.36%).

This cluster examines how AI is used to automate or support various HR decisions. The key themes include:

Recruitment and Selection: Artificial intelligence-driven candidate screening, predictive analytics for job fit and the use of AI in reducing hiring biases (Nawaz, 2019; Ore & Sposato, 2022).



AI, artificial intelligence.

FIGURE 3: Cluster map.

Performance Management: Artificial intelligence's role in continuous performance monitoring, data-driven evaluations and feedback systems (Choi & Choi, 2021; Tong et al., 2021).

Learning and Development: Personalised learning and skill gap analysis using AI (Ardichvili, 2022; Bennett & McWhorter, 2022).

Compensation and Benefits: Artificial intelligence in salary recommendations, retention modelling, and optimising benefits packages (Kot et al., 2021).

Artificial intelligence-HR Performance (26 articles, 13.47%).

This cluster investigates the impact of AI adoption on HR performance metrics, organisational outcomes, and overall HR effectiveness. Key themes include:

Human Resource Efficiency Metrics: The effects of AI on HR process speed, accuracy, and cost-effectiveness (Parker & Appel, 2021).

Employee Experience: Artificial intelligence's impact on employee engagement, satisfaction and self-service HR capabilities (Einola & Khoreva, 2023; Malik et al., 2023).

Strategic HR Contribution: The role of AI in strengthening HR's strategic position within organisations and its contribution to business decision-making (Malik et al., 2022; Prikshat et al., 2023).

Organisational Performance: The relationship between AI adoption and organisational performance, particularly productivity and profitability (Xin et al., 2022).

The key themes and findings across the four identified clusters are summarised in Table 1, providing an overview of the main insights derived from the analysis.

Key trends in approaches

Based on the content analysis, we classified the overall perspective of each study towards AI in HR decision-making (Figure 4).

Positive Perspectives (52%): The majority of studies highlighted the potential benefits of AI, such as improved HR process efficiency and better organisational performance (Johnson et al., 2020; Rožman et al., 2022).

Negative Perspectives (18%): A smaller proportion of studies raised concerns about the risks of AI adoption, such as job displacement, privacy violations and algorithmic (Neuburger & Fiedler, 2020; Walkowiak, 2021).

Balanced Perspectives (30%): These studies acknowledged both the advantages and challenges of integrating AI into HRM, with a focus on ethical considerations and the need for human oversight in AI decision-making (Charlwood & Guenole, 2022; Qamar et al., 2021).

Comparative analysis across clusters

The thematic clusters identified in this study are interconnected, each contributing to a multifaceted narrative

TABLE 1: Summary of key findings across clusters.

Cluster	Key themes	Key findings	References
AI adoption	Implementation strategies, Organisational readiness, Barriers, Success factors, HR roles	Gradual versus rapid adoption, importance of aligning AI with organisational objectives and human-centric approaches. Resistance to change mitigated by leadership and collaboration.	Hmoud (2021), Islam (2024), Aydın and Turan (2023)
AI Ethics	Algorithmic fairness, Privacy and data protection, Transparency, Ethical framework development	Addressing biases, ensuring equal opportunities and creating transparent and interpretable AI models. Ethical review processes needed.	Bankins (2021), Rodgers et al. (2023)
AI in HR decision-making	Recruitment, Performance management, Learning and development, Compensation and benefits	AI enhances efficiency in recruitment, enables personalised learning and supports data-driven performance management while requiring human oversight.	Nawaz (2019), Choi and Choi (2021)
AI-HR performance	HR efficiency metrics, Employee experience, Strategic contribution, Organisational performance	AI improves process speed and accuracy, engages employees through self-service capabilities and supports strategic HR roles. Potential to enhance profitability.	Malik et al. (2023), Xin et al. (2022)

Note: Please see the full reference list of this article: https://doi.org/10.4102/sajhrm.v23i0.2856 for more information.
AI, artificial intelligence; HR, human resource.

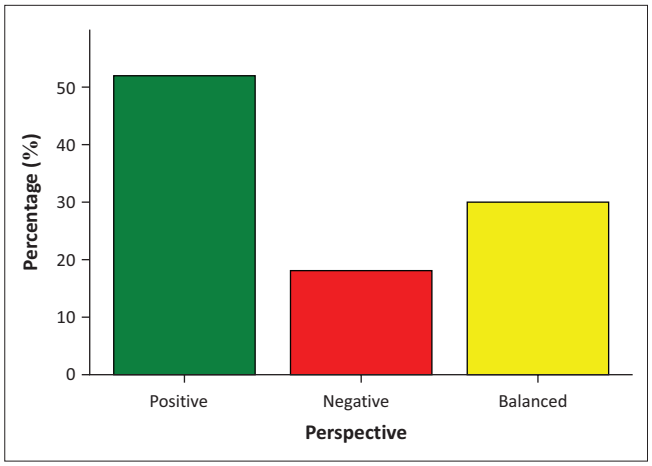


FIGURE 4: Perspectives distribution.

of AI adoption in HR. Ethical considerations (Cluster 2) are shown to influence AI decision-making processes (Cluster 3), especially in areas such as recruitment fairness and data transparency. Similarly, advancements in HR performance metrics (Cluster 4) depend on effective implementation strategies (Cluster 1), indicating that success in AI adoption requires integrated efforts across organisational and technological domains.

Emerging areas and research gaps

Although the clusters provide a comprehensive overview, emerging areas such as AI's impact on employee well-being and the creation of robust ethical governance structures remain underexplored. Future research should examine how AI adoption can balance efficiency with employee satisfaction and ensure ethical AI deployment in HR functions. Furthermore, the development of industry-specific ethical frameworks could guide organisations in adopting AI responsibly.

Discussion

The integration of AI into HRM has become an essential focus of both academic research and practical application. The results of this study contribute to a comprehensive understanding of AI's role in transforming HR decision-making, with a particular emphasis on employee involvement and ethical considerations.

Synthesis of findings across clusters

Our findings reveal that AI adoption in HRM can be categorised into four main clusters: AI adoption, AI Ethics, AI-driven HR decision-making and AI Performance. Each of these clusters presents unique insights and challenges, yet they are interconnected in ways that shape the overall success of AI integration in HR.

Artificial intelligence adoption

The AI adoption cluster highlights the critical importance of employee involvement in the successful integration of AI systems. This is consistent with prior research, which emphasises the necessity of aligning AI implementation with organisational goals and HR strategies (Tambe et al., 2019). The findings underscore that AI adoption is not solely a technological issue but a cultural and organisational challenge that requires significant change management strategies. Our analysis further demonstrates that successful AI adoption is contingent on addressing both technological and human factors, such as HR staff's readiness and organisational culture, as well as mitigating resistance to change through active employee participation (Alnamrouti et al., 2022; Aydın & Turan, 2023).

Artificial intelligence ethics

Ethical considerations are paramount in the deployment of AI in HR decision-making. Our findings indicate that issues such as algorithmic fairness, transparency and privacy protection are central concerns in AI-driven HR systems (Bankins, 2021; Prikshat et al., 2023). The AI ethics cluster strongly emphasises the need for organisations to develop comprehensive ethical frameworks to guide AI adoption and implementation. Transparency in AI systems is particularly crucial, as it fosters trust among employees and mitigates the potential for biases in recruitment and performance evaluations. Future research could explore how ethical guidelines are practically integrated into AI systems and the challenges faced in ensuring compliance (Rodgers et al., 2023).

Artificial intelligence-driven human resource decision-making

The AI-driven HR decision-making cluster demonstrates the potential for AI to improve HR processes, such as recruitment, performance management and workforce planning.

By automating routine HR functions, AI can free HR professionals to focus on more strategic tasks. However, studies also point to the importance of maintaining human oversight in decision-making, especially in areas where fairness and transparency are essential (Choi & Choi, 2021; Ore & Sposato, 2022). Our findings echo these concerns, highlighting that while AI can enhance the efficiency and objectivity of HR decision-making, it must be accompanied by human judgement to ensure ethical and effective outcomes.

Artificial intelligence-human resource performance

Artificial intelligence's impact on HR performance metrics and organisational outcomes is another crucial area of our study. The AI performance cluster shows that AI can enhance operational efficiency, reduce administrative burdens and support data-driven HR strategies (Malik et al., 2022; Parker & Appel, 2021). However, our study also points to challenges in measuring the ROI for AI investments, as the effects of AI on HR performance are often indirect and long-term. The need for robust frameworks to evaluate the effectiveness of AI in HR functions is an area that warrants further exploration (Strohmeier, 2022).

Emerging research areas

While this review has provided valuable insights into the current state of AI in HRM, several emerging areas warrant further investigation. One of the most significant gaps identified is the impact of AI on employee well-being. As AI systems take on more decision-making tasks, concerns about job displacement, surveillance and autonomy have surfaced. Future research could explore how AI integration affects employee satisfaction, engagement and trust in HR systems. A deeper understanding of the relationship between AI-driven decision-making and employee well-being will be crucial in designing AI systems that are both efficient and ethical.

In addition, the development of ethical governance structures for AI in HRM remains an underexplored area. Our study emphasises the importance of creating industry-specific guidelines that address the unique ethical challenges posed by AI in HR contexts. These frameworks should not only focus on fairness and transparency but also consider the long-term societal impacts of AI, such as its effect on employment patterns and workplace inequalities (Jetha et al., 2021). Further research in this area could offer practical solutions for organisations looking to navigate the ethical complexities of AI adoption in HR.

Implications for practice

The findings from this study have several important implications for HR practitioners and organisational leaders looking to adopt AI in their decision-making processes.

Strategic and Holistic AI adoption: Organisations must approach AI integration strategically, considering both the technological and human factors that contribute to successful implementation. Change management strategies should include employee participation at all stages of the process, ensuring that AI adoption aligns with organisational goals and enhances HR practices (Chowdhury et al., 2023).

Ethical AI Implementation: Developing and implementing clear ethical guidelines for AI in HRM is essential to ensure fairness, transparency and compliance with data protection regulations. Human resource leaders should establish governance structures to oversee AI implementation and monitor its ethical impact (Rodgers et al., 2023).

Human-AI Collaboration: Artificial intelligence should be viewed as a tool to augment human decision-making rather than replace it. By fostering a collaborative relationship between AI systems and HR professionals, organisations can leverage the strengths of both to improve decision quality and employee satisfaction (Einola & Khoreva, 2023).

Employee Involvement: Engaging employees in the AI adoption process through feedback loops, training and participatory design models can help mitigate resistance and ensure that AI systems meet their needs and expectations (Agarwal, 2022; Basu et al., 2023).

Conclusion

This systematic review highlights the transformative potential of AI in HRM while also addressing the challenges associated with its adoption, including ethical concerns, employee involvement and long-term impacts on organisational culture. The findings provide a comprehensive framework for organisations to navigate the complexities of AI adoption in HR, ensuring that AI systems are both effective and ethically sound. Future research should focus on exploring the underexplored areas of AI's impact on employee well-being and the development of robust ethical governance structures to guide AI deployment in HRM.

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Competing interests

The authors reported that they received funding from Directorate of Resources, Technology and Higher Education (DRTPM), Ministry of Education, Culture, Research and Technology of the Republic of Indonesia which may be affected by the research reported in the enclosed publication.

The author has disclosed those interests fully and has implemented an approved plan for managing any potential conflicts arising from their involvement. The terms of these funding arrangements have been reviewed and approved by the affiliated University in accordance with its policy on objectivity in research.

Authors' contributions

W.S.T.: Conceptualisation, methodology, formal analysis, investigation, writing of the original draft and visualisation. T.R.: Project administration, writing review and editing, supervision and funding acquisition. R.F.: Software development, validation, data curation and resource management.

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Data availability

The data that support the findings of this study are available from the corresponding author, W.S.T., upon reasonable request. Because of privacy and ethical considerations, specific datasets are not publicly available. However, all relevant data supporting the conclusions of this research are included within the article.

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