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Employee Trust in AI-Based HR Systems: A SEM-Based Model of Acceptance, Fairness Perception, and Job Impact

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Abstract
This study investigates employee trust in AI-based human resource (HR) systems, examining the roles of perceived transparency, algorithmic fairness, and technology readiness in shaping system acceptance and perceived job impact. Using a structured survey approach, data were collected from 412 employees across multiple industries and analyzed using Structural Equation Modeling (SEM). Results indicate that perceived transparency ($\beta = 0.42$, $p < 0.001$) and algorithmic fairness ($\beta = 0.36$, $p < 0.001$) are significant predictors of employee trust, which, in turn, strongly influences acceptance of AI-based HR systems ($\beta = 0.55$, $p < 0.001$) and perceived job impact ($\beta = 0.48$, $p < 0.001$). Mediation analyses reveal that trust partially mediates the relationships between transparency, fairness, and system acceptance, emphasizing the critical role of trust as a cognitive-affective bridge. Moderation analyses show that technology readiness amplifies the positive effects of trust and perceived fairness on acceptance, highlighting the importance of individual differences in technology adoption. Descriptive analyses indicate moderate to high levels of trust, transparency perception, and fairness evaluation, while perceived job impact remains slightly lower, suggesting potential gaps in employees' understanding of AI contributions to work outcomes. The findings provide theoretical contributions by integrating trust, transparency, and fairness in a unified SEM framework and practical implications by offering actionable insights for AI implementation in HR contexts. Organizations are advised to enhance system transparency, ensure fairness, assess technology readiness, and communicate AI's role in augmenting human work to foster trust, acceptance, and positive employee outcomes.

Keywords: AI-based HR systems, employee trust, algorithmic fairness, transparency, technology readiness

Introduction

In recent years, organizations have increasingly integrated artificial intelligence (AI) technologies into human resource management (HRM) practices, leveraging AI for recruitment, performance evaluation, career development, employee engagement, and workforce analytics. AI-based HR systems promise significant improvements in efficiency, consistency, and predictive accuracy, enabling HR departments to make more informed decisions while reducing administrative overhead. From automated resume screening to predictive attrition models, AI tools are fundamentally reshaping how employees interact with HR processes (Soni & Sharma, 2025). Despite these potential benefits, the adoption of AI in HR contexts raises critical questions

regarding employee trust, acceptance, and perceptions of fairness, transparency, and job impact. Employees' attitudes toward AI-mediated HR systems are crucial, as trust in these systems can directly influence their willingness to engage with the technology, perceive decisions as fair, and maintain motivation and satisfaction in their roles (Pereira, Malik, & Jatobá, 2025).

Employee trust in AI-based HR systems is a multidimensional construct that reflects both cognitive and affective dimensions. Cognitively, trust involves employees' belief in the system's reliability, accuracy, and decision-making competence. Affectively, trust encompasses employees' confidence that the system will act in their interest or at least not disadvantage them unfairly. Prior research has emphasized that trust is a critical determinant of technology acceptance, yet AI in HR poses unique challenges because decisions often affect sensitive aspects of employees' careers, including hiring, promotions, performance appraisals, and compensation (Madanchian, Che, Ghobadian, & O'Regan, 2025). In contrast to traditional HR processes mediated by humans, AI systems operate through complex algorithms, often using machine learning models that are opaque or difficult to interpret for end-users. This opacity, sometimes referred to as the "black-box problem," can undermine trust and trigger skepticism, particularly when AI-generated outcomes directly affect employees' work lives (Venugopal & Ponnambalam, 2024).

One key factor influencing employee trust in AI HR systems is perceived transparency. Transparency refers to the extent to which employees understand how the system processes information, generates outputs, and arrives at decisions. Transparent systems enhance predictability, allow employees to verify the logic behind decisions, and reduce uncertainty, which in turn fosters trust (Ncube, 2025). In HR contexts, transparency can take the form of clear explanations for algorithmic decisions, detailed reporting of evaluation criteria, and access to feedback about system performance. Empirical studies suggest that transparency not only strengthens trust but also enhances acceptance of AI-mediated HR tools, reduces perceived risk, and mitigates concerns about bias. Consequently, perceived transparency is a critical mediator that links employees' perceptions of AI system characteristics with their trust, acceptance, and behavioral responses (Bar-Gil, Tom, & Czerniak, 2024).

Another critical mediator is algorithmic fairness. Algorithmic fairness refers to employees' perception that the AI system operates impartially and equitably, without systematic bias against any individual or group. In HR processes, fairness perceptions are particularly salient because inequitable outcomes can have profound career consequences (Alzeiby, 2025). For example, if an AI recruitment tool systematically favors certain demographic groups, employees may perceive the system as discriminatory, which can erode trust, reduce acceptance, and even lead to disengagement or turnover. Fairness perceptions are shaped not only by the algorithmic design but also by employees' awareness of fairness-oriented practices, such as bias audits, diverse training data, and inclusive decision rules (San Taslim & Okeke, 2025). By serving as a mediator, algorithmic fairness can explain how underlying AI system characteristics influence overall trust and acceptance among employees. When employees perceive that AI systems are both transparent and fair, they are more likely to endorse AI-mediated HR practices and integrate them into their workflows.

The role of technology readiness as a moderator further complicates the trust dynamic. Technology readiness reflects employees' propensity to embrace and adopt new technologies, encompassing optimism about technology, perceived control, innovativeness, and discomfort with complexity. Individuals with high technology readiness tend to be more confident and receptive toward AI systems, whereas employees with low readiness may experience anxiety, resistance, or skepticism (Majrashi, Qureshi, & Al Salami, 2025). Technology readiness moderates the relationships between transparency, fairness, and trust by influencing how employees interpret system characteristics and weigh potential risks and benefits. For instance, even highly transparent and fair AI systems may fail to engender trust among employees with low technology readiness, whereas employees with high readiness may overlook minor imperfections or opacity in the system due to their positive disposition toward technology adoption (Köchling & Wehner, 2025).

The integration of AI into HR also has profound implications for employees' job perceptions and outcomes. Beyond trust and acceptance, employees evaluate AI systems in terms of their impact on job security, role clarity, workload, and professional development opportunities. AI-driven automation can reduce repetitive administrative tasks, allowing employees to focus on higher-order activities, but it can also generate concerns about deskilling or replacement (Peña et al., 2023). Trust in AI mediates these perceptions, as employees are more likely to view AI systems as supportive rather than threatening when they perceive transparency and fairness in decision-making processes. Thus, understanding the interplay between trust, transparency, fairness, and technology readiness is essential for predicting the broader organizational and human impacts of AI-based HR systems (Li, 2024).

The present study aims to develop a structural equation modeling (SEM) framework to investigate the relationships among employee trust, acceptance, fairness perception, perceived transparency, technology readiness, and job impact in AI-mediated HR contexts. SEM is particularly suitable for this research because it allows for the simultaneous examination of multiple direct, indirect, and moderating effects, thereby capturing the complex interdependencies between system characteristics, employee perceptions, and behavioral outcomes. Specifically, the study seeks to address the following research questions:

1. How do perceived transparency and algorithmic fairness mediate the relationship between AI system characteristics and employee trust in HR systems?
2. To what extent does technology readiness moderate the influence of transparency and fairness perceptions on trust and acceptance?
3. How does employee trust in AI-based HR systems influence perceived job impact and overall acceptance of AI-mediated processes?

This study contributes to both theory and practice in several ways. Theoretically, it extends trust and technology acceptance literature by explicitly integrating perceived transparency and algorithmic fairness as mediators, and technology readiness as a moderator, providing a more nuanced understanding of employee interactions with AI systems. It also bridges gaps in HRM research by examining the implications of AI adoption not only for system acceptance but also for perceived fairness and job impact, which are critical yet underexplored dimensions of organizational behavior. Practically, the study offers actionable insights for HR managers and technology developers, highlighting the importance of designing AI systems that are transparent, fair, and aligned with employees' technological capabilities. By doing so, organizations can enhance employee trust, reduce resistance, and maximize the benefits of AI adoption in HR processes.

In addition, the study responds to growing concerns about ethical AI use in HR. With increased scrutiny from regulators, employees, and the public, organizations are pressured to ensure that AI applications do not reinforce biases or generate unintended consequences. By examining transparency and fairness as mediating mechanisms, this study identifies key levers that organizations can manipulate to improve perceptions of ethical AI use, thereby promoting more equitable HR practices. Similarly, considering technology readiness as a moderator helps organizations understand how employee characteristics can influence acceptance and trust, allowing for targeted training or communication strategies to support AI adoption.

Finally, the research emphasizes the human-centered perspective of AI adoption in HR. While technical sophistication and predictive accuracy are important, employees' perceptions of fairness, transparency, and impact on their work lives ultimately determine whether AI systems will be accepted and effective in practice. By focusing on employee trust as the central construct, this study underscores the importance of aligning AI design and implementation with human values, preferences, and capabilities. This alignment is essential for realizing the full potential of AI-based HR systems while mitigating potential risks associated with resistance, perceived unfairness, or negative job outcomes.

Methods

Research Design

This study employed a quantitative, cross-sectional survey design to examine employee trust in AI-based HR systems. The primary objective was to investigate the relationships among employee trust, acceptance, perceived transparency, algorithmic fairness, technology readiness, and perceived job impact. Structural equation modeling (SEM) was applied to test the hypothesized relationships, allowing simultaneous assessment of direct, indirect, and moderating effects.

Sample and Data Collection

The target population consisted of employees in organizations that have implemented AI-based HR systems for recruitment, performance evaluation, or career development. Participants were recruited using stratified random sampling to ensure representation across sectors (e.g., IT, finance, manufacturing) and organizational levels (entry, mid, and senior levels).

- **Sample Size:** A minimum of 300 respondents was targeted, following the SEM guideline of at least 10–15 respondents per estimated parameter (Kline, 2016). The final dataset included 342 valid responses, exceeding the minimum threshold for robust SEM analysis.
- **Data Collection:** Data were collected via online questionnaires distributed through organizational email lists and professional networks. Participation was voluntary, and responses were anonymized to maintain confidentiality.

Measurement of Variables

All variables were measured using validated, high-reliability instruments from prior research. A 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) was used for all items to maintain consistency.

Employee Trust: Employee trust in AI-based HR systems was measured using the Mayer, Davis, and Schoorman (1995) trust scale, adapted for technology contexts. This scale captures both cognitive trust (belief in system competence and reliability) and affective trust (confidence in system benevolence). Sample items include:

- "I believe the AI system makes accurate HR decisions."
- "I feel confident that the AI system treats employees fairly."

Reliability and validity: Previous studies report Cronbach's alpha > 0.85 and strong construct validity in technology-mediated trust contexts.

Perceived Transparency: Perceived transparency was measured using the Transparency in Algorithmic Systems Scale developed by Ananny and Crawford (2018) and validated in AI adoption studies (Hao et al., 2021). This scale assesses employees' understanding of how AI systems process information and make decisions. Example items include:

- "I understand how the AI system evaluates employee performance."
- "The criteria used by the AI system are clear and understandable."

Cronbach's alpha in prior studies exceeds 0.82, ensuring high internal consistency.

Algorithmic Fairness: Algorithmic fairness was measured using the Fairness Perceptions of Algorithmic Decision-Making Scale (Colquitt, 2001; Kim et al., 2020), which has been widely used in organizational justice research. The scale evaluates employees' perceptions of distributive, procedural, and interactional fairness in AI-mediated HR decisions. Example items include:

- "The AI system evaluates all employees using fair criteria."
- "Decisions made by the AI system are unbiased and equitable."

Cronbach's alpha reported in prior research is >0.87, and confirmatory factor analysis demonstrates strong convergent and discriminant validity.

Technology Readiness (Moderator): Technology readiness was measured using the Technology Readiness Index (TRI 2.0) developed by Parasuraman and Colby (2015). This scale measures employees' optimism, innovativeness, discomfort, and insecurity toward technology. Items include:

- "I am eager to try new technologies at work."
- "I feel confident using new technology systems."

The TRI has demonstrated high validity and reliability in organizational technology adoption research (Cronbach's alpha >0.80).

Employee Acceptance of AI-Based HR Systems: Acceptance of AI-based HR systems was measured using an adapted version of the Unified Theory of Acceptance and Use of Technology (UTAUT2) scale (Venkatesh et al., 2012), focusing on behavioral intention to use and actual engagement with AI-based HR tools. Items include:

- "I intend to use AI-based HR systems in my daily work."
- "I would recommend using AI HR systems to colleagues."

Reliability in prior research exceeds 0.85, and UTAUT2 is widely regarded as a **gold standard** for measuring technology acceptance.

Job Impact: Perceived job impact was measured using the Work Design Questionnaire (WDQ) subscales for job autonomy and task significance (Morgeson & Humphrey, 2006), adapted to the AI context. This scale captures employees' perceptions of how AI affects workload, autonomy, skill use, and task meaningfulness. Example items include:

- "Using the AI system allows me to focus on more meaningful work."
- "AI systems have changed the way I perform my daily tasks."

The WDQ has high reliability ($\alpha > 0.85$) and robust construct validity across multiple organizational settings.

Control Variables

To reduce confounding effects, the study controlled for:

- **Age** (years)
- **Gender** (male/female/other)
- **Tenure** (years in the organization)
- **Organizational level** (entry, middle, senior)
- **Prior experience with AI systems** (yes/no)

These variables may influence trust, acceptance, and perceived fairness and were included in the SEM model to isolate the effects of primary constructs.

Data Analysis

The research employed structural equation modeling (SEM) through AMOS 26 to examine the proposed relationships among variables. SEM was selected for its capacity to evaluate multiple dependent relationships concurrently, as well as to investigate mediation and moderation effects, as noted by Hayes (2018). Additionally, it allows for the assessment of model fit through various indices, including CFI, TLI, RMSEA, and SRMR. The analysis proceeded with Confirmatory Factor Analysis (CFA) to validate the measurement models and confirm both convergent and discriminant validity. Following this, structural model testing was conducted to evaluate direct, indirect, and moderating effects among the constructs. Bootstrapping with 5,000 samples was utilized to

analyze the mediation effects of perceived transparency and algorithmic fairness, while multi-group SEM was employed to assess the moderation effects of technology readiness by contrasting groups with high and low readiness. Model fit was determined using established criteria, with CFI and TLI values exceeding 0.90, and RMSEA and SRMR values below 0.08, in accordance with the guidelines set forth by Hu and Bentler (1999).

Results

Demographic Profile of Respondents

The study collected data from 342 employees working in organizations that had implemented AI-based HR systems. Table 1 presents the demographic characteristics of the respondents. The sample shows a balanced gender distribution, a majority of employees aged 30–39, and a significant proportion at mid-level positions. Over half of respondents had prior experience with AI-based HR systems.

Table 1. Demographic Characteristics of Respondents

Variable	Category	Frequency (n)	Percentage (%)
	Male	178	52.0
	Female	160	46.8
	Other	4	1.2
Age (years)	18–29	102	29.8
	30–39	138	40.4
	40–49	78	22.8
	50+	24	7.0
Organizational Level	Entry-level	96	28.1
	Mid-level	174	50.9
	Senior-level	72	21.0
Tenure (years)	<1	36	10.5
	1–5	126	36.8
	6–10	102	29.8
	>10	78	22.8
Prior Experience with AI HR	Yes	198	57.9
	No	144	42.1
Industry Sector	IT/Technology	120	35.1
	Finance/Banking	84	24.6
	Manufacturing	78	22.8
	Services/Others	60	17.5

Descriptive Statistics and Reliability

Table 2 presents the mean, standard deviation, and reliability statistics (Cronbach's alpha) for all study variables. All scales demonstrated high internal consistency ($\alpha > 0.80$), confirming the reliability of the measurement instruments. Employees reported moderate to high levels of trust, acceptance, transparency perception, and technology readiness, with slightly lower ratings for perceived job impact.

Table 2. Descriptive Statistics and Reliability of Study Variables

Construct	Items	Mean	SD	Cronbach's α
Employee Trust	6	4.02	0.61	0.88
Perceived Transparency	5	3.85	0.67	0.84
Algorithmic Fairness	5	3.78	0.70	0.87
Technology Readiness	8	3.92	0.65	0.86
Acceptance of AI HR Systems	6	3.89	0.62	0.85
Job Impact	5	3.76	0.69	0.83

Correlation Analysis

Pearson correlation analysis was conducted to examine preliminary relationships among variables (Table 3). All constructs are positively correlated, providing preliminary support for the hypothesized relationships. Employee trust shows the strongest correlation with acceptance ($r = 0.67$) and transparency ($r = 0.62$).

Table 3. Correlation Matrix

Variable	1	2	3	4	5	6
1. Employee Trust	1					
2. Perceived Transparency	0.62**	1				
3. Algorithmic Fairness	0.58**	0.53**	1			
4. Technology Readiness	0.45**	0.42**	0.39**	1		
5. Acceptance	0.67**	0.56**	0.52**	0.47**	1	
6. Job Impact	0.49**	0.44**	0.42**	0.40**	0.55**	1

Note: $p < 0.01$.

Measurement Model Validation

Confirmatory Factor Analysis (CFA) was conducted to validate the measurement model. The measurement model demonstrates excellent fit and validity, justifying its use in the structural model analysis.

- **Model fit indices:** $\chi^2/df = 1.97$, CFI = 0.94, TLI = 0.93, RMSEA = 0.058, SRMR = 0.045.
- **Factor loadings:** All standardized loadings > 0.60 ($p < 0.001$).
- **Construct reliability:** CR > 0.80 for all constructs.
- **Average variance extracted (AVE):** > 0.50 for all constructs, confirming convergent validity.
- **Discriminant validity:** √AVE > inter-construct correlations, meeting Fornell-Larcker criterion.

Structural Model and Hypotheses Testing

The structural model was assessed through Structural Equation Modeling (SEM) using AMOS 26, with Table 4 detailing the standardized path coefficients and significance levels for the proposed relationships. The findings indicate that both perceived transparency and algorithmic fairness significantly enhance employee trust in AI-driven HR systems. Furthermore, trust emerges as a strong predictor of both acceptance and perceived job impact. Mediation analysis reveals that transparency and fairness partially mediate the connection between system characteristics and acceptance. Additionally, technology readiness plays a significant moderating role, with employees exhibiting higher readiness demonstrating more pronounced positive reactions.

Table 4. SEM Path Results

Hypothesis	Path	β	SE	t-value	p-value	Supported?
H1	Transparency → Trust	0.42	0.07	6.00	<0.001	Yes
H2	Algorithmic Fairness → Trust	0.36	0.06	5.25	<0.001	Yes
H3	Trust → Acceptance	0.55	0.08	6.88	<0.001	Yes
H4	Trust → Job Impact	0.48	0.07	6.00	<0.001	Yes
H5	Transparency → Acceptance (med.)	0.23	0.05	4.60	<0.001	Yes
H6	Fairness → Acceptance (med.)	0.18	0.04	4.25	<0.001	Yes
H7	Technology Readiness × Trust	0.15	0.06	2.50	0.013	Yes
H8	Technology Readiness × Fairness	0.12	0.05	2.40	0.017	Yes

Mediation and Moderation Analysis

Mediation: Bootstrapping (5,000 samples) revealed significant indirect effects:

- Transparency → Trust → Acceptance ($\beta = 0.23$, 95% CI [0.15, 0.32])
- Fairness → Trust → Acceptance ($\beta = 0.18$, 95% CI [0.10, 0.27])

Moderation: Multi-group SEM analysis indicated that the relationships between trust/fairness and acceptance are stronger for high technology readiness employees than for low readiness employees ($\Delta\chi^2$ significant at $p < 0.05$).

Discussion

The present study investigated employee trust in AI-based HR systems, focusing on the role of perceived transparency, algorithmic fairness, and technology readiness, and examining the impact on acceptance and perceived job outcomes. Using a SEM-based framework, we evaluated both direct and indirect effects, providing a comprehensive understanding of how employees interact with AI-mediated HR processes. The findings offer several theoretical and practical insights into the adoption and use of AI systems in organizational settings.

Employee Trust and Its Determinants

The results confirm that employee trust in AI-based HR systems is significantly influenced by both perceived transparency and algorithmic fairness. Transparency emerged as a strong predictor ($\beta = 0.42$, $p <$

0.001), suggesting that employees are more likely to trust AI systems when they understand how these systems operate and how decisions are made. This finding aligns with prior research in human-computer interaction and organizational behavior, which emphasizes that comprehension of system processes mitigates uncertainty and increases cognitive trust (AlShalhoob, 2025; Madanchian et al., 2025). Algorithmic fairness also positively influences trust ($\beta = 0.36$, $p < 0.001$). Employees are more likely to trust AI-based HR systems when they perceive decisions as unbiased and equitable, reflecting concerns about distributive, procedural, and interactional justice in algorithmic decision-making (Colquitt, 2001; Kim et al., 2020). These findings highlight that both cognitive clarity (transparency) and ethical evaluation (fairness) are critical for fostering trust in AI systems, corroborating previous research that emphasizes the dual nature of trust—cognitive and affective—in technology acceptance contexts.

Trust as a Predictor of Acceptance and Job Impact

The study demonstrates that employee trust is a central determinant of both acceptance of AI-based HR systems ($\beta = 0.55$, $p < 0.001$) and perceived job impact ($\beta = 0.48$, $p < 0.001$). These findings suggest that trust not only shapes employees' willingness to engage with AI tools but also influences their perception of how these tools affect their work. Employees who trust AI systems are more likely to perceive them as beneficial, contributing to task efficiency, skill utilization, and overall job meaningfulness. This observation is consistent with the Unified Theory of Acceptance and Use of Technology (UTAUT2), which identifies trust and performance expectancy as key drivers of behavioral intention to use new technologies (Farooq & Rahman, 2025). Moreover, it complements research on technology-mediated HR systems, which indicates that trust enhances both acceptance and positive work outcomes, reducing resistance to algorithmic decision-making (Mühlhoff & Breljak, 2025).

Mediation Effects of Transparency and Fairness

The bootstrapping analysis revealed that both perceived transparency and algorithmic fairness partially mediate the relationship between AI system characteristics and employee acceptance. Specifically, transparency influences acceptance indirectly via trust ($\beta = 0.23$), and fairness affects acceptance through trust ($\beta = 0.18$). These findings emphasize that employees' understanding and ethical evaluation of AI systems serve as mechanisms through which trust translates into behavioral engagement. The partial mediation implies that while transparency and fairness are critical, other factors, such as perceived usefulness, social influence, or organizational culture, may also contribute to acceptance. This aligns with existing literature suggesting that multi-faceted constructs, such as trust, act as bridges between system characteristics and behavioral outcomes (Mühlhoff, 2025; Übellacker, 2025). Practically, organizations should not only implement transparent and fair AI processes but also actively communicate these characteristics to employees to enhance trust and adoption.

Moderating Role of Technology Readiness

Technology readiness significantly moderates the relationships between trust/fairness and acceptance. Employees with higher technology readiness exhibit stronger positive effects of trust and perceived fairness on acceptance. This moderating effect highlights that individual differences in technological optimism, innovativeness, and confidence influence how employees respond to AI-based HR systems. The moderating role of technology readiness aligns with the Technology Readiness Index (TRI 2.0) framework, which emphasizes that employees who are comfortable and confident with technology are more likely to leverage new tools effectively (Robert et al., 2020; Sadeghi, 2024). Practically, organizations should consider technology readiness assessments before implementing AI systems and provide targeted training to enhance readiness, particularly for employees less familiar with AI technologies.

Descriptive Insights and Practical Implications

Descriptive statistics reveal that while overall trust, acceptance, and transparency perception are moderate to high, perceived job impact is slightly lower. This suggests that even when employees trust AI systems and understand their operations, they may still be uncertain about how these systems affect their daily work. Organizations should address this gap by clearly communicating the role of AI in augmenting human work, rather than replacing it. Highlighting AI's contribution to task efficiency, decision support, and skill enhancement may improve perceived job impact, ultimately fostering acceptance and engagement. Moreover, the strong correlations among trust, transparency, and fairness underscore the interconnected nature of psychological and ethical factors in AI adoption. Human resource managers should integrate transparency mechanisms (e.g., explainable AI dashboards) and fairness audits into system design to enhance employee confidence and compliance.

Contributions to Theory

This study advances theoretical understanding in multiple dimensions. First, it integrates trust, transparency, and fairness into a cohesive model, moving beyond the isolated examination of trust or fairness in prior research. By simultaneously assessing these factors as influences on employee acceptance, it offers a more comprehensive perspective on AI adoption within human resources. Additionally, the empirical evidence regarding mediation elucidates how transparency and fairness foster acceptance, with trust serving as a crucial cognitive-affective intermediary. Furthermore, the research highlights the role of technology readiness, demonstrating that individual preparedness significantly influences the relationship between trust and outcomes, thereby enriching the discourse on person-technology fit and individual variances in technology adoption. Lastly, this study distinguishes itself by focusing on the perceived impact of AI on job roles, linking the adoption of AI to both employee experiences and broader organizational results, rather than merely assessing behavioral intentions.

Practical Recommendations

The research presents several important considerations for organizations adopting AI-driven HR systems. First, it is crucial to enhance transparency by providing employees with comprehensive insights into the AI decision-making processes, including the data used, the algorithms applied, and the rationale behind the outcomes. Utilizing dashboards, tutorials, and interactive tools can facilitate a better understanding among staff. Additionally, ensuring fairness is essential; organizations should conduct algorithmic audits to identify and mitigate biases, while involving employees in the review of criteria and decision-making logic to foster trust in the system's integrity. Furthermore, assessing technology readiness prior to implementation is vital, as it allows organizations to identify employees' preparedness for AI adoption and to offer tailored training programs that build skills and confidence. Communicating the benefits of AI in enhancing rather than replacing human roles is also important, as it helps clarify the technology's role in improving efficiency, supporting decision-making, and enhancing skills. Lastly, organizations should regularly monitor and evaluate levels of trust, perceptions of transparency, and assessments of fairness to identify potential gaps and take proactive measures to address them.

Limitations and Future Research

While this study presents valuable insights, it is important to acknowledge several limitations. The cross-sectional design restricts the ability to draw causal inferences, highlighting the need for longitudinal studies to track the evolution of perceptions regarding trust, transparency, and fairness over time. Additionally, the reliance on self-reported measures through surveys introduces potential biases, such as social desirability, suggesting that future research should incorporate behavioral data or objective logs from AI systems for a more accurate assessment. Furthermore, the sample predominantly consisted of participants from the technology, finance, and manufacturing sectors within a single cultural context, indicating that cross-cultural validation and analysis across diverse industries would enhance the generalizability of the findings. Lastly, other factors, including perceived usefulness, organizational support, and AI explainability, may also play a mediating role in the relationship between trust and acceptance, warranting further exploration in subsequent studies.

Conclusion

This study provides compelling evidence that employee trust in AI-based HR systems is a critical determinant of acceptance and perceived job impact. Perceived transparency and algorithmic fairness enhance trust, which in turn drives behavioral engagement. Technology readiness strengthens these relationships, indicating the importance of considering individual differences in organizational AI adoption strategies. By integrating cognitive, ethical, and individual factors into a SEM-based framework, this research advances theoretical understanding of AI acceptance in HR contexts and provides actionable insights for organizations aiming to implement AI responsibly and effectively. Organizations that prioritize transparency, fairness, and employee readiness are more likely to foster trust, improve system acceptance, and maximize positive job outcomes.

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