Uniglobal of Journal Social Sciences and Humanities
Journal Homepage: www.ujssh.com

Applicant Perceptions of AI Recruitment and Organizational Attractiveness: The Person-Environment Fit Mechanism from an Algorithm Aversion Perspective

Ren Zilin[1]

[1]Graduate School of Business, SEGi University,Selangor, 47500, Malaysia

*Corresponding author email:1876278627@qq.com

Received 12 April 2026, Revised 14 April 2026, 14 April 2026, Available online 14 April 2026

To link to this article: https://doi.org/10.53797/ujssh.v5i2.1.2026

Abstract: The increasing adoption of artificial intelligence (AI) in recruitment has raised important questions about its unintended consequences for talent attraction. While prior research has emphasized the efficiency and accuracy benefits of AI-driven hiring, limited attention has been given to how such practices are interpreted by job applicants and how these interpretations shape organizational evaluations.

Drawing on signaling theory and person–environment fit theory, this study conceptualizes AI recruitment as an ambivalent organizational signal that simultaneously conveys efficiency and impersonality. It proposes that applicant perceptions of AI recruitment influence organizational attractiveness through perceived person–environment fit, which functions as a key interpretive mechanism linking technological signals to organizational evaluations. Furthermore, this process is theorized to be contingent upon both individual and situational factors, such that technology anxiety amplifies negative interpretations, whereas perceived job technicity attenuates them.

A between-subjects experimental design with 300 job seekers provides empirical support for the proposed model. Results indicate that perceived AI recruitment is negatively associated with organizational attractiveness and that this relationship is partially mediated by person–environment fit. In addition, the indirect effect is stronger among individuals with higher levels of technology anxiety and weaker when the job is perceived as highly technical.

This study makes three contributions. First, it shifts the focus of AI recruitment research from organizational outcomes to applicant-centered interpretive processes. Second, it advances theory by identifying person–environment fit as a central mechanism through which ambivalent technological signals are translated into organizational evaluations. Third, it extends research on algorithm aversion by demonstrating that responses to AI in recruitment are systematically shaped by both individual differences and task characteristics.

Overall, the findings highlight a critical paradox: technologies adopted to enhance efficiency and objectivity may simultaneously undermine organizational attractiveness. These insights contribute to a more nuanced understanding of AI adoption in recruitment and its implications for talent acquisition.

Keywords: Artificial intelligence recruitment, algorithm aversion, person-environment fit, organizational attractiveness, technology anxiety

1. Introduction

The rapid diffusion of artificial intelligence (AI) technologies has fundamentally reshaped organizational recruitment practices. Across industries, organizations increasingly rely on AI-driven tools to enhance efficiency and decision accuracy. As noted by Budhwar et al. (2023), while AI offers transformative potential for various HRM functions, it also necessitates a comprehensive research agenda to understand its broader organizational and societal impacts. Understanding how applicants interpret these changes is essential for evaluating the consequences of technological adoption. While a growing body of research has documented these organizational benefits, considerably less attention has been devoted to how such practices are interpreted by job applicants, whose perceptions ultimately determine an organization's ability to attract talent.

*Corresponding author: author@organisation.edu.co

Recruitment is inherently a two-sided evaluative process. Beyond being assessed, applicants actively interpret organizational practices and form judgments about the type of organization they may enter. Organizational attractiveness, defined as the extent to which an organization is perceived as a desirable place to work, plays a critical role in shaping applicant intentions and job choice decisions. Accordingly, understanding how applicants interpret the increasing use of AI in recruitment is essential for evaluating the broader consequences of technological adoption in human resource management.

Existing research on algorithmic decision-making suggests that individuals often exhibit skepticism toward algorithms, particularly in contexts involving subjective judgment. This phenomenon, commonly referred to as algorithm aversion, has been widely documented across domains. However, prior studies have largely focused on direct reactions to algorithmic decisions, offering limited insight into how such reactions translate into broader organizational evaluations. In particular, it remains unclear why and under what conditions the use of AI in recruitment influences organizational attractiveness.

AI-driven recruitment is conceptualized in this study as an inherently ambivalent organizational signal. On the one hand, the use of AI may signal efficiency, innovation, and data-driven decision-making, which are generally valued in contemporary organizations. On the other hand, it may simultaneously signal impersonality, standardization, and reduced human involvement, potentially undermining perceptions of relational warmth and individualized consideration. This duality creates a fundamental tension in how applicants interpret AI recruitment practices.

To address this tension, signaling theory provides a useful foundation by conceptualizing recruitment practices as observable cues through which applicants infer unobservable organizational characteristics. However, signaling alone does not fully explain how such cues are cognitively processed. Integrating person–environment fit theory offers a more complete account by suggesting that applicants translate AI-related signals into judgments about value congruence between themselves and the organization. In this framework, perceived person–environment fit functions as a central interpretive mechanism linking technological signals to organizational evaluations.

Building on this perspective, the present study proposes that AI recruitment influences organizational attractiveness through its impact on perceived person–environment fit. Specifically, when AI recruitment is perceived as signaling a prioritization of efficiency over human interaction, applicants may infer a misalignment between their values and those of the organization, thereby reducing perceived fit and, in turn, organizational attractiveness.

Importantly, this interpretive process is unlikely to be uniform across individuals and contexts. From an algorithm aversion perspective, individual differences shape sensitivity to algorithmic decision-making. Technology anxiety, defined as apprehension toward new technologies, is expected to amplify negative interpretations of AI recruitment signals. At the same time, situational characteristics also play a critical role. When a job is perceived as highly technical, AI-based evaluation may be viewed as more appropriate, thereby attenuating negative inferences. Conversely, when a job is perceived as less technical and more relational, AI recruitment may exacerbate perceived misalignment.

Based on this reasoning, a moderated mediation model is developed in which applicant perceptions of AI recruitment influence organizational attractiveness through person–environment fit, with technology anxiety and perceived job technicity shaping the strength of this process.

This study makes three primary contributions. First, it shifts the focus of AI recruitment research from organizational outcomes to applicant-centered interpretive processes, offering a more comprehensive understanding of the consequences of technological adoption. Second, it reconceptualizes AI recruitment as an ambivalent organizational signal and identifies person–environment fit as the key mechanism through which such signals are translated into organizational evaluations. In doing so, it advances both signaling theory and person–environment fit theory by clarifying how technological cues are cognitively processed by applicants. Third, it extends research on algorithm aversion by demonstrating that reactions to AI in recruitment are contingent upon both individual differences and task characteristics.

Taken together, these arguments highlight a critical paradox in contemporary recruitment: technologies adopted to enhance efficiency and objectivity may simultaneously undermine an organization's attractiveness to potential applicants. Understanding this tension is essential for both theoretical development and organizational practice in the age of AI.

2. Literature Review and Hypothesis Development

2.1. Signaling Theory and AI Recruitment

Signaling theory explains how individuals make inferences under conditions of information asymmetry, where one party possesses information that is not directly observable to the other (Spence, 1973). In recruitment contexts, job applicants typically lack direct knowledge of organizational values, internal processes, and work environments. As a result, they rely on observable organizational attributes−particularly recruitment practices−as signals through which unobservable characteristics are inferred (Cable & DeRue, 2002).

Recruitment practices constitute especially salient signals because they represent one of the earliest and most consequential points of contact between applicants and organizations. Beyond conveying procedural information, these practices implicitly communicate underlying organizational priorities, norms, and value orientations. For instance,

structured and transparent hiring procedures may signal fairness, consistency, and professionalism, whereas unstructured or opaque processes may signal arbitrariness or bias.

Within this framework, AI-driven recruitment emerges as a novel and increasingly influential signal in contemporary hiring environments. The use of AI technologies—such as automated resume screening, algorithmic ranking systems, and AI-assisted interviews—introduces a qualitatively distinct informational cue compared to traditional human-based evaluation. Importantly, this signal is not unidimensional. Rather, AI recruitment is conceptualized as an ambivalent organizational signal that conveys potentially conflicting meanings.

On the one hand, the adoption of AI may signal efficiency, technological sophistication, and data-driven decision-making, attributes that are often associated with organizational competence and innovation. On the other hand, it may simultaneously signal impersonality, standardization, and reduced human involvement, which may undermine perceptions of relational warmth and individualized consideration. These competing interpretations suggest that the signaling effects of AI recruitment are inherently ambiguous rather than uniformly positive or negative.

This ambiguity implies that the impact of AI recruitment cannot be fully understood by examining signals alone. Instead, the critical issue lies in how such signals are interpreted. The same recruitment practice may lead to divergent evaluations depending on how applicants cognitively process and assign meaning to the signal. In particular, when algorithmic decision-making is perceived as misaligned with the nature of the evaluation task, negative interpretations are more likely to emerge. Recruitment, which involves both objective assessments and subjective judgments, provides a context in which such interpretive tensions are especially pronounced.

2.2 Algorithm Aversion Perspective

Algorithm aversion refers to the tendency for individuals to distrust or avoid algorithmic decision-makers, even when such systems demonstrate equal or superior performance relative to human judgment (Dietvorst et al., 2015). This phenomenon is particularly salient in domains that involve subjective evaluation, where decision-making is expected to incorporate intuition, empathy, and contextual sensitivity−qualities that are often perceived as lacking in algorithmic systems.

Subsequent research has demonstrated that algorithm aversion is contingent upon task characteristics. In particular, individuals exhibit stronger aversion when tasks are perceived as subjective rather than objective (Castelo et al., 2019). Subjective tasks are associated with nuanced judgment and human understanding, leading to skepticism regarding the appropriateness of algorithmic evaluation. By contrast, in more technical or objective domains, algorithmic decision-making is more readily accepted.

Recruitment decisions inherently involve a combination of objective and subjective components. While qualifications and experience can be evaluated using standardized criteria, assessments of cultural fit, interpersonal compatibility, and future potential require subjective judgment. The introduction of AI into this context may therefore create a perceived misalignment between the nature of the task and the decision-making agent. Recent empirical evidence from Oostrom et al. (2024) supports this, demonstrating that applicants respond more negatively to algorithmic evaluations in high-stakes settings, such as video interviews, compared to traditional recruiter-based assessments.

From this perspective, AI recruitment may activate algorithm aversion by signaling that inherently subjective evaluations are being delegated to impersonal systems. Such perceptions may lead applicants to question the fairness, appropriateness, and legitimacy of the recruitment process, thereby generating negative reactions. However, although algorithm aversion provides a compelling explanation for why AI recruitment may elicit unfavorable responses, it does not fully account for how these reactions translate into broader organizational evaluations.

Specifically, existing research has largely focused on immediate attitudes toward algorithmic decisions, without clarifying the psychological mechanisms through which these attitudes influence higher-order judgments, such as organizational attractiveness. This limitation highlights the need for an integrative framework that connects reactions to algorithmic decision-making with broader evaluative processes. To address this gap, the following section introduces person-environment fit theory as a mediating mechanism that explains how interpretations of AI recruitment signals are translated into organizational evaluations.

2.3. Person–Environment Fit as a Mediating Mechanism

Person-environment fit theory posits that individuals are more attracted to, and experience greater satisfaction within, environments that are compatible with their values, needs, and characteristics (Kristof-Brown et al., 2005). Among its various dimensions, person–organization fit—defined as the alignment between an individual's values and those of an organization—has consistently been identified as a central predictor of organizational attractiveness and job choice decisions.

In recruitment contexts, applicants do not merely evaluate job attributes; they actively interpret organizational cues to infer underlying value orientations. Because direct information about organizational culture and values is typically unavailable, such inferences rely heavily on signals embedded in recruitment practices. These signals are not passively received but cognitively processed to form judgments about value congruence.

Building on this perspective, perceived person–environment fit is conceptualized as an interpretive mechanism through which applicants translate recruitment signals into broader organizational evaluations. Rather than functioning as a simple attitudinal variable, person–environment fit reflects the outcome of a value inference process in which applicants assess whether the organization's implied priorities align with their own expectations.

Within this framework, AI-driven recruitment signals may shape perceived fit by conveying implicit value orientations. When AI is perceived as extensively used in recruitment, it may signal a prioritization of efficiency, standardization, and technological optimization. Although such attributes may be valued in certain contexts, they may also imply reduced emphasis on human interaction, individualized consideration, and holistic evaluation. For many applicants, particularly in roles involving interpersonal or subjective elements, this inferred value orientation may conflict with expectations of being evaluated as unique individuals.

This perceived misalignment between applicant expectations and organizational signals is likely to reduce perceived value congruence, thereby lowering person–environment fit. In turn, reduced fit is expected to diminish organizational attractiveness, given that applicants tend to prefer organizations that reflect their own values and anticipated work experiences.

Accordingly, the following hypotheses are proposed:

H1: Applicant perceptions of AI recruitment are negatively associated with organizational attractiveness.

H2: Person‑environment fit mediates the relationship between applicant perceptions of AI recruitment and organizational attractiveness.

2.4 The Moderating Role of Technology Anxiety

Although AI recruitment may generate negative interpretations, the strength of this effect is likely to vary across individuals. One important individual difference is technology anxiety, defined as the apprehension or discomfort experienced when interacting with new technologies (Meuter et al., 2003).

Technology anxiety shapes how individuals interpret technological signals by influencing perceptions of uncertainty, control, and risk. Individuals with high levels of technology anxiety are more likely to perceive technological systems as complex, opaque, and potentially unreliable. In the context of AI recruitment, such individuals may interpret algorithmic decision-making as a loss of personal agency and as a less trustworthy evaluation mechanism. As a result, the negative implications associated with AI-related signals are likely to be amplified.

In contrast, individuals with low technology anxiety are generally more comfortable engaging with technological systems and may view AI as a legitimate and efficient component of organizational practice. For these individuals, AI recruitment is less likely to trigger negative value inferences, thereby weakening its impact on perceived person–environment fit.

Thus, technology anxiety is expected to moderate the relationship between AI recruitment perceptions and perceived fit by shaping the intensity of value-based interpretations.

H3a: Technology anxiety moderates the relationship between applicant perceptions of AI recruitment and person–environment fit, such that the negative relationship is stronger when technology anxiety is high.

2.5 The Moderating Role of Job Technicity Perception

In addition to individual differences, the interpretation of AI recruitment signals is contingent upon task characteristics. Prior research indicates that algorithmic decision-making is more readily accepted in contexts perceived as objective or technical, and less accepted in contexts perceived as subjective (Castelo et al., 2019).

Perceived job technicity refers to the extent to which a job is viewed as requiring technical skills, analytical reasoning, and objective evaluation criteria. This perception shapes expectations regarding the appropriateness of different evaluation methods.

When a job is perceived as highly technical, AI-based evaluation may be interpreted as consistent with task requirements. In such cases, algorithmic decision-making aligns with expectations of objectivity, precision, and data-driven assessment. This alignment reduces the perceived mismatch between the nature of the task and the decision-making agent, thereby attenuating negative value inferences associated with AI recruitment.

Conversely, when a job is perceived as less technical and more relational or subjective, applicants may expect human judgment to play a central role. Under these conditions, the use of AI may be interpreted as inappropriate, signaling a lack of sensitivity to interpersonal and contextual nuances. This perceived incongruence is likely to intensify negative interpretations and further reduce perceived fit.

Therefore, perceived job technicity is expected to moderate the relationship between AI recruitment perceptions and perceived person‑environment fit by shaping the perceived appropriateness of algorithmic evaluation.

H3b: Perceived job technicity moderates the relationship between applicant perceptions of AI recruitment and person‑environment fit, such that the negative relationship is weaker when job technicity is high.

2.6 Moderated Mediation

Integrating the preceding arguments, a moderated mediation framework is proposed in which the indirect effect of AI recruitment on organizational attractiveness through person‑environment fit is contingent upon both individual and situational factors.

Specifically, technology anxiety is expected to amplify the negative impact of AI recruitment on perceived fit, thereby strengthening the indirect effect on organizational attractiveness. In contrast, perceived job technicity is expected to reduce the perceived mismatch between AI-based evaluation and task characteristics, thereby weakening the indirect effect.

These arguments suggest that the extent to which AI recruitment undermines organizational attractiveness depends not only on the presence of algorithmic evaluation but also on how such evaluation is interpreted within specific individual and contextual conditions.

Accordingly, the following hypotheses are proposed:

H4a: Technology anxiety moderates the indirect effect of applicant perceptions of AI recruitment on organizational attractiveness via person‑environment fit, such that the indirect effect is stronger when technology anxiety is high.

H4b: Perceived job technicity moderates the indirect effect of applicant perceptions of AI recruitment on organizational attractiveness via person‑environment fit, such that the indirect effect is stronger when perceived job technicity is low.

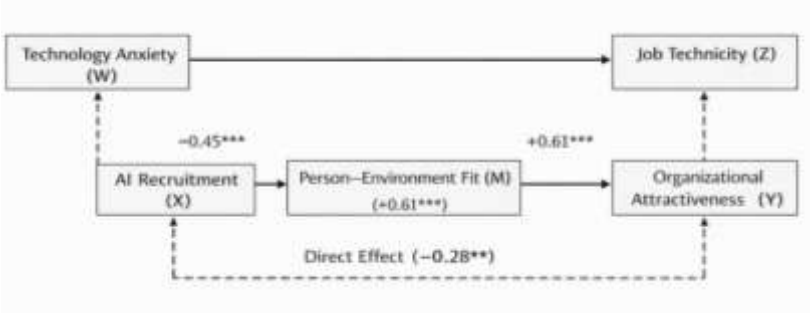

Figure 1. Theoretical Model

3. Methodology

3.1 Research Design

This study employed a between-subjects experimental design with two conditions: high AI recruitment and low AI recruitment. This design allows for causal inference regarding the impact of AI recruitment perceptions on organizational attractiveness while minimizing potential confounding factors.

Participants were randomly assigned to one of the two conditions and asked to evaluate a fictitious company (“InnovTech”) and a job posting for a Marketing Operations Specialist position. The only difference between conditions was the description of the recruitment process.

3.2 Sample and Participants

A total of 300 participants were recruited for the study, with 150 assigned to each condition. Participants were individuals actively seeking employment or who had recently graduated. The sample consisted of 52% female participants, with a mean age of 26.4 years (SD = 3.2).

Participants completed the study online. After reading the recruitment scenario, they responded to a series of survey items measuring key variables, including person‑environment fit, organizational attractiveness, technology anxiety, and perceived job technicity.

3.3 Experimental Manipulation

In the high AI condition, participants were informed that the company used AI technologies extensively throughout the recruitment process, including automated resume screening, AI-based video interview analysis, and algorithmic candidate ranking.

In the low AI condition, participants were informed that all recruitment processes were conducted by human recruiters, including manual resume screening and face-to-face interviews.

A manipulation check confirmed that participants in the high AI condition perceived significantly greater use of AI than those in the low AI condition.

A manipulation check with three items assessed the effectiveness of this manipulation. Items included "This company uses AI technology extensively in its recruitment process" and were measured on 7-point scales (1 = strongly disagree, 7 = strongly agree).

3.4 Measures

All measures employed 7-point Likert scales (1 = strongly disagree, 7 = strongly agree).

Person-Environment Fit. Cable and DeRue's (2002) six-item scale assessed person-environment fit across three dimensions: person-organization fit (two items), person-job fit (two items), and person-supervisor fit (two items). A sample item includes "This organization's values match my personal values."

Organizational Attractiveness. Highhouse et al.'s (2003) five-item scale measured organizational attractiveness. Sample items included "I would be happy to accept a job offer from this company" and "This company is attractive to me as a place to work."

Technology Anxiety. Meuter et al.'s (2003) four-item scale assessed technology anxiety. Sample items included "I feel anxious about using new technology" and "I worry that I might make errors when using technology."

Job Technicity Perception. Three items adapted from the task objectivity-subjectivity framework (Castelo et al., 2019) assessed perceived job technicity: "This job requires strong technical skills," "This job's content is closely related to technology," and "This position demands high technical capability."

Control Variables. Demographic variables including gender, age, education level (1 = associate degree, 2 = bachelor's degree, 3 = master's degree, 4 = doctoral degree), and prior AI familiarity (1 = very unfamiliar to 7 = very familiar) were measured as controls.

3.5 Analytical Strategy

Data analysis proceeded in five stages. First, descriptive statistics and correlations were examined. Second, manipulation effectiveness was assessed via independent samples t-test. Third, the main effect (H1) was tested using one-way ANOVA. Fourth, mediation (H2) was tested using PROCESS Model 4 (Hayes, 2018) with 5,000 bootstrap samples. Fifth, moderated mediation (H3a, H3b, H4a, H4b) was tested using PROCESS Model 7.

4. Results

4.1 Manipulation Check and Preliminary Analyses

To verify the effectiveness of the experimental manipulation, an independent samples t-test was conducted.

Results showed that participants in the high AI condition ($M = 6.12$, $SD = 0.85$) reported significantly higher perceived AI usage than those in the low AI condition ($M = 1.98$, $SD = 0.92$), $t(298) = 32.15$, $p < .001$, Cohen's $d = 4.68$. This indicates that the manipulation was highly successful and that participants clearly distinguished between the two recruitment conditions.

4.2 Descriptive Statistics and Correlations

Descriptive statistics and zero-order correlations among all variables are presented in Table 1.

Results indicate that AI recruitment is negatively correlated with person–environment fit ($r = -.45$, $p < .01$) and organizational attractiveness ($r = -.52$, $p < .01$). Person–environment fit is positively associated with organizational attractiveness ($r = .61$, $p < .01$), supporting the proposed mediation framework.

Technology anxiety shows a negative correlation with both person–environment fit ($r = -.18$, $p < .05$) and organizational attractiveness ($r = -.22$, $p < .01$). In contrast, job technicity perception is not significantly correlated with the main variables, suggesting its role as a moderator rather than a direct predictor.

Table 1. Descriptive Statistics and Correlations

Variable	M	SD	1	2	3	4	5
1. AI Condition	—	—	—				
2. Person-Environment Fit	3.98	1.12	-.45**	—			
3. Organizational Attractiveness	4.32	1.25	-.52**	.61**	—		
4. Technology Anxiety	3.85	1.08	.12	-.18*	-.22**	—	
5. Job Technicity	4.56	1.45	.08	.15	.10	.05	—

*Note: N = 300. AI Condition coded 0 = low AI, 1 = high AI. **p < .01. p < .05.

4.3 Hypothesis Testing

Main Effect (H1). A one-way ANOVA revealed that organizational attractiveness was significantly lower in the high AI condition ($M = 3.45$, $SD = 1.18$) than in the low AI condition ($M = 5.21$, $SD = 1.02$), $F(1, 298) = 112.34$, $p < .001$, $\eta^2 = 0.27$. H1 was supported.

Mediation (H2). PROCESS Model 4 analysis indicated that the indirect effect of AI condition on organizational attractiveness through person-environment fit was significant (indirect effect = -1.12, 95% CI [-1.52, -0.78]), as the bootstrap confidence interval did not include zero. The direct effect remained significant ($\beta = -0.68$, $p < .01$), suggesting partial mediation. H2 was supported.

Moderated Mediation (H3 and H4). PROCESS Model 7 analysis revealed that technology anxiety significantly moderated the AI → person-environment fit path (interaction $\beta = -0.25$, $p < .001$). Simple slope analysis indicated that the negative effect of AI on fit was stronger for individuals high in technology anxiety (+1 SD; $\beta = -1.32$, $p < .001$) than for those low in technology anxiety (-1 SD; $\beta = -0.48$, $p < .05$). H3a was supported.

Job technicity perception also significantly moderated the AI → person-environment fit path (interaction $\beta = 0.18$, $p < .01$). The negative effect was weaker when job technicity was perceived as high (+1 SD; $\beta = -0.52$, $p < .05$) and stronger when perceived as low (-1 SD; $\beta = -1.24$, $p < .001$). H3b was supported.

The conditional indirect effects were significant across moderator levels, supporting H4a and H4b. Table 2 presents the conditional indirect effects at high and low levels of each moderator.

Table 2. Conditional Indirect Effects

Moderator Level	Indirect Effect	95% CI	Moderator Level	Indirect Effect	95% CI	Moderator Level
Low Technology Anxiety (-1 SD)	-0.68	[-1.12, -0.28]	Low Technology Anxiety (-1 SD)	-0.68	[-1.12, -0.28]	Low Technology Anxiety (-1 SD)
High Technology Anxiety (+1 SD)	-1.56	[-2.01, -1.18]	High Technology Anxiety (+1 SD)	-1.56	[-2.01, -1.18]	High Technology Anxiety (+1 SD)
Low Job Technicity (-1 SD)	-1.48	[-1.95, -1.08]	Low Job Technicity (-1 SD)	-1.48	[-1.95, -1.08]	Low Job Technicity (-1 SD)
High Job Technicity (+1 SD)	-0.72	[-1.18, -0.32]	High Job Technicity (+1 SD)	-0.72	[-1.18, -0.32]	High Job Technicity (+1 SD)

*Note: N = 300. Bootstrap samples = 5,000. CI = confidence interval

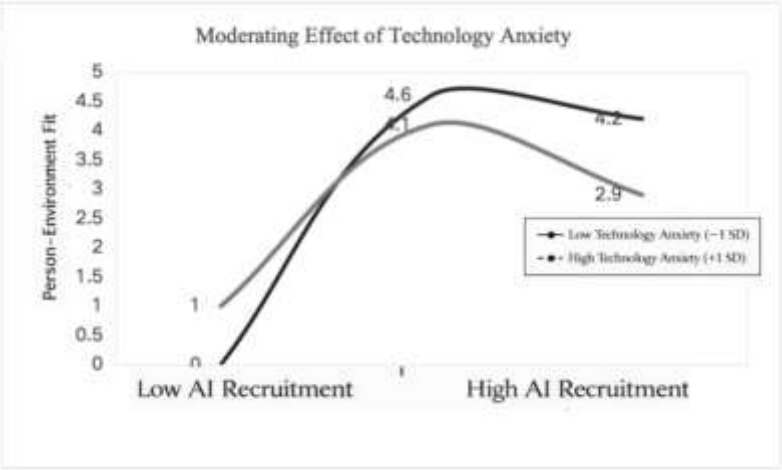

Figure 2. Moderating Effect of Technology Anxiety

Figure 2. Moderating effect of technology anxiety on the relationship between AI recruitment and person–environment fit. The negative relationship is stronger at higher levels of technology anxiety.

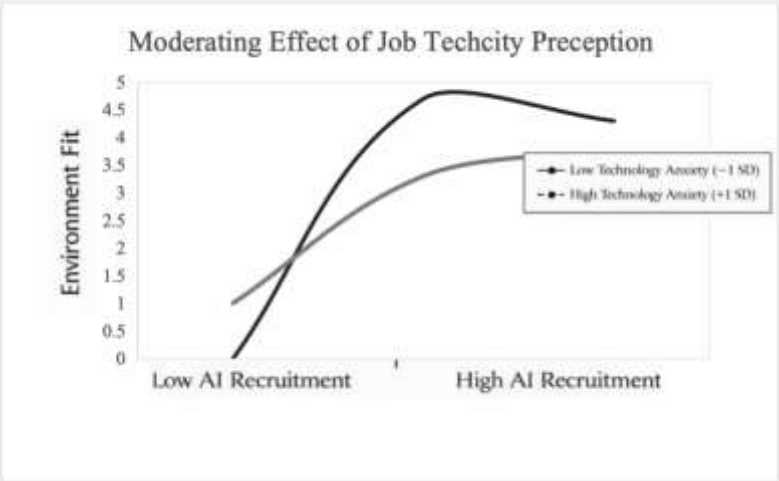

Figure 3. Moderating Effect of Job Technicity Perception

Figure 3. Moderating effect of perceived job technicity on the relationship between AI recruitment and person–environment fit. The negative relationship is weaker when perceived job technicity is high.

5. Discussion

5.1 Summary of Findings

The present study investigated how applicant perceptions of AI recruitment affect organizational attractiveness. Results demonstrated that applicants who perceived extensive AI usage reported lower organizational attractiveness, and this effect was mediated by reduced person–environment fit. These findings align with recent empirical evidence from (Oostrom et al., 2024), which suggests that the shift from human to algorithmic evaluation can negatively impact applicant reactions due to concerns over fairness and the loss of personal touch. Furthermore, technology anxiety amplified this negative indirect effect, while perceived job technicity attenuated it. These findings provide a nuanced understanding of applicant reactions to AI-driven recruitment from an algorithm aversion perspective.

5.2 Theoretical Contributions

First, the present study shifts the AI-HRM literature from an organizational efficiency perspective to an applicant-centric perspective. While prior research extensively documented AI's benefits for organizations (Tambe et al., 2019; Hickman et al., 2022), the present findings demonstrate that these technological implementations may carry unintended costs in terms of talent attraction—a consequence that has received insufficient theoretical attention.

Second, person-environment fit was identified as a key mechanism linking technological signals to applicant evaluations. By integrating signaling theory with person-environment fit theory, the findings explain how applicants translate perceptions of recruitment technology into evaluations of organizational attractiveness. This integration addresses a gap in the algorithm aversion literature, which has primarily focused on direct effects without specifying psychological mechanisms (Dietvorst et al., 2015; Burton et al., 2020).

Third, the present findings extend algorithm aversion theory by demonstrating boundary conditions specific to recruitment contexts. The finding that technology anxiety amplifies while job technicity attenuates the negative effect of AI recruitment reveals that algorithm aversion is not monolithic but varies systematically with individual dispositions and situational characteristics (Castelo et al., 2019).

5.3 Practical Implications

For HR practitioners, the findings suggest that adopting AI recruitment tools requires careful consideration of target applicant populations. Organizations recruiting for technical roles or targeting technologically-savvy applicants may experience less adverse reactions. Conversely, organizations recruiting for relational roles or targeting applicants with higher technology anxiety should exercise caution in implementing fully automated AI systems.

The mediating role of person-environment fit suggests that organizations can mitigate negative reactions by explicitly communicating their values and emphasizing human oversight in AI-assisted processes. Transparency about AI usage, combined with clear articulation of organizational commitment to employee well-being, may help preserve perceived fit.

For technology developers, the findings underscore the importance of designing AI recruitment tools that signal human-centered values. Features that enhance explainability, provide opportunities for applicant self-expression, and demonstrate human oversight may help counteract the impersonal signal conveyed by AI.

5.4 Limitations and Future Research

Several limitations merit consideration. First, the scenario-based experiment, while enabling causal inference, may not fully capture real-world hiring dynamics. Field studies examining actual applicant behavior would enhance external validity. Second, the sample consisted primarily of young job seekers in China; cross-cultural replication is necessary to establish generalizability. Third, only one job type was examined; future research should test the model across diverse occupations and industries.

Future research should explore additional moderators, such as organizational reputation, industry norms, and prior AI experience. Additionally, investigating how explainable AI features might serve as counter-signals to repair perceived fit represents a promising avenue for future inquiry.

5.5 Conclusion

The present study demonstrates that AI-driven recruitment constitutes a double-edged sword. While offering efficiency gains, it may inadvertently reduce organizational attractiveness for a substantial segment of the talent pool. By identifying person-environment fit as the mediating mechanism and technology anxiety and job technicity as boundary conditions from an algorithm aversion perspective, the present findings provide both theoretical insight and practical guidance for organizations navigating the intersection of technology and talent management.

References

Budhwar, P., Chowdhury, S., Wood, G., & Varma, A. (2023). Artificial intelligence in human resource management: A review and research agenda. *Human Resource Management Review*, *33*(1), Article 100925. https://doi.org/10.1016/j.hrmr.2022.100925

Burton, J. W., Stein, M. K., & Jensen, T. B. (2020). A systematic review of algorithm aversion in augmented decision making. *Journal of Behavioral Decision Making*, *33*(2), 220–239. https://doi.org/10.1002/bdm.2155

Cable, D. M., & DeRue, D. S. (2002). The convergent and discriminant validity of subjective fit perceptions. *Journal of Applied Psychology*, *87*(5), 875–884. https://doi.org/10.1037/0021-9010.87.5.875

Castelo, N., Bos, M. W., & Lehmann, D. R. (2019). Task-dependent algorithm aversion. *Journal of Marketing Research*, *56*(5), 809–825. https://doi.org/10.1177/0022243719851788

Dietvorst, B. J., Simmons, J. P., & Massey, C. (2015). Algorithm aversion: People erroneously avoid algorithms after seeing them err. *Journal of Experimental Psychology*: General, *144*(1), 114–126. https://doi.org/10.1037/xge0000033

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (2nd ed.). Guilford Press.

Hickman, L., Bosch, N., Ng, V., Saef, R., Tay, L., & Woo, S. E. (2022). Automated video interview personality assessments: Reliability, validity, and generalizability investigations. *Journal of Applied Psychology*, *107*(8), 1323–1351. https://doi.org/10.1037/apl0000695

Highhouse, S., Lievens, F., & Sinar, E. F. (2003). Measuring attraction to organizations. *Educational and Psychological Measurement*, *63*(6), 986–1001. https://doi.org/10.1177/0013164403258403

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person–job, person–organization, person–group, and person–supervisor fit. *Personnel Psychology*, *58*(2), 281–342. https://doi.org/10.1111/j.1744-6570.2005.00672.x

Langer, M., König, C. J., & Papathanasiou, M. (2019). Highly automated job interviews: Acceptance under the influence of stakes. *International Journal of Selection and Assessment*, *27*(3), 217-234. https://doi.org/10.1111/ijsa.12246

Meuter, M. L., Ostrom, A. L., Bitner, M. J., & Roundtree, R. (2003). The influence of technology anxiety on consumer use and experiences with self-service technologies. *Journal of Business Research*, *56*(11), 899–906. https://doi.org/10.1016/S0148-2963(01)00276-4

Oostrom, J. K., Holtrop, D., Koutsoumpis, A., van Breda, W., Ghassemi, S., & de Vries, R. E. (2024). Applicant reactions to algorithm- versus recruiter-based evaluations of an asynchronous video interview and a personality

inventory. *Journal of Occupational and Organizational Psychology*, *97*(1), 160–189. https://doi.org/10.1111/joop.12466

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, *87*(3), 355–374. https://doi.org/10.2307/1882010

Tambe, P., Cappelli, P., & Yakubovich, V. (2019). Artificial intelligence in human resources management: Challenges and a path forward. *California Management Review,* *61*(4), 15–42. https://doi.org/10.1177/0008125619867910