

Ethical AI in SME Recruitment: Fairness, Transparency and Trust

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Abstract: Artificial Intelligence (AI) is increasingly transforming recruitment, yet its ethical deployment within small and medium enterprises (SMEs) remains uncertain. This study investigates how ethical AI adoption influences trust formation in SME recruitment, emphasizing the mediating roles of fairness and transparency. Drawing upon Ethical Climate Theory and the Technology Acceptance Model, a quantitative, cross-sectional survey was conducted among 380 SME recruiters and HR managers across India. Data were analysed using SPSS 26 and SmartPLS 4 to validate measurement reliability and test the proposed structural model. Results demonstrate that ethical AI adoption significantly enhances perceptions of fairness ($\beta = 0.65$) and transparency ($\beta = 0.67$), which in turn strengthen trust in AI-driven recruitment ($\beta = 0.29$ and 0.31 , $p < 0.001$). Mediation analysis confirms partial mediation, indicating that trust arises when AI systems are perceived as both equitable and explainable. The model explains 68 percent of variance in trust; the acceptable fit was confirmed (SRMR = 0.064) which confirms the robustness of framework. These findings represent a contribution to the research in responsible AI since they empirically show that ethical governance makes technological addressing moral legitimacy in resource constrained SMEs. The study calls for fairness audits, protocols for transparency and how ethical cultures might be developed as mechanism to increase stakeholder confidence and compliance with regulations organizations could have the hydra of efficiency of operations and trust in the organization over the long term by integrating ethical accountability to the hiring of AI.

Keywords: Ethical AI, Fairness, Transparency, Trust, SME recruitment, Responsible Technology, Ethical Climate theory and Technology Acceptance Model.

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I. INTRODUCTION

Artificial Intelligence (AI) is quickly transforming the direction in recruiting and selection procedures and pledges to make the process a lot more efficient and much less likely to human bias and more capable of decision making. SMEs whose limited resources have made it difficult to compete with larger companies for the best talent, the application of AI provides a means of easing the burden of the hiring process. An AI-enabled recruitment model should make it possible to objectively assess candidates, cost-effectively screen and fairly choose them without human error and administrative overhead. In these technologies in an ideal ethical ecosystem the technology would operate with full transparency both the hirer and the candidate would be able to see how the algorithms made and why they made the decision they did, as well as being able to have confidence that it was justified and ethical. This ideal is, however, still ideal than the reality. In particular, there are a lot of ethical ambiguities in the implementation of AI in the recruitment process, such as

fairness, transparency and trust, which are the basis of the legitimacy of the organization and the social acceptance of new technologies.

The problem lies in the growing ethical opacity surrounding AI systems in recruitment. Many AI-based tools are proprietary “black boxes” whose algorithms are inaccessible to users or applicants, thereby obscuring decision logic and accountability. Studies such as Raghavan et al. (2020) and Bogen and Rieke (2018) have demonstrated that algorithmic systems may unintentionally replicate or even amplify historical biases encoded in training data, leading to discriminatory outcomes.

The conception of AI ethic in recruitment has been framed mostly from either the perspective of the large organization, or technical system design (Cowgill, Dell'Acqua, & Deng, 2023; Tambe, Cappelli, & Yakubovich, 2019). Most models of ethical AI tend to be generalised or theoretical models and do not describe the requirements for

applying fairness and transparency in strategic ways that are feasible for geographically-resourced contexts of recruitment under consideration. The implications of this blind spot are bound to be direct and indirect: the discriminatory and/or transparent AI systems can cause damage to candidate's trust, damage to the employer's reputation as well as can lead to challenging ethical and/or legal scenarios to companies.

There is little understanding of the extent to which AI based Recruitment SMEs trust the technology based on the concept of ethics in AI, in particular, fairness and transparency. Second, the lack of integration between the ethical dimensions and the outcomes of recruitment in SME eco-system is found in this study.

This paper addresses this gap, by proposing and empirically testing a conceptual model of AI adoption in which ethical AI adoption, fairness, transparency, and trust are positively related to each other. The research is conducted within the confines of the Theory of Ethical Climate and Technology Acceptance Model (TAM) and it establishes the moderating position of fairness and transparency perception between the amalgamations of adoption and the association of the relationship of AI and trust creation. By mainly basing its examination on the SME realities in practice, this paper not only contributes to theory and practice on responsible AI in the recruiting context, but also proposes some ethical and governance-based regulations for the sustainable use of HR technology.

II. LITERATURE

A. Ethical AI Adoption in SME Recruitment

Artificial intelligence (AI) is a critical tool in the recruitment process with the promises of making the process more efficient, objective and removing human subjectivity and bias. For SMEs, considering that they tend to operate with a limited amount of financial and human resources, emerging AI offers the potential of professionalization throughout the recruiting process and competitive advantage (Sanchez et al.2025). The adoption of AI is not only a technological issue, but also an ethical challenge and an organizational issue which must be properly governed and implemented responsibly (Hunkenschroer & Luetge, 2022). Planting the Seed for AI in SMEs Literature has established that due to large disparity in digital infrastructure (both in terms of infrastructural development and advanced technologies), data governance as well as awareness of ethicalities involved, AI implementation in SMEs is questioned from the larger corporates as well (Schwaeke, 2025).

Ethical AI adoption in recruitment covers the integration of AI tools in a way that is consistent with the principles of fairness, transparency and accountability (European Commission, 2021). Whereas large enterprises often have formal ethical review committees, SMEs tend to rely on informal managerial mechanisms and management decisions (Sanchez, Lund, and Yami, 2025). This increases the risk of expecting to use AI systems that may not necessarily align with either ethical or regulatory expectations, despite the efficiency with which they do their job. The extent by which SMEs embrace the adoption of ethics in AI is highly

contingent on two internal drivers - digital maturity and organisational culture which will dictate whether technological change is coupled with responsible business conduct.

B. Digital Maturity and Organizational Culture

Digital maturity measures an enterprise's strategic readiness for incorporation of digital technologies into its operating processes (Quenum, Vallée, & Ertz, 2025). In terms of the adoption of AI, developed digital maturity gives SMEs the technical literacy and management of data capabilities to grasp, review and ethically apply AI tools (Jewapatarakul, 2024). On the other hand, low maturity restricts their capacity to audit algorithms or be able to understand AI-generated recommendations which in turn leaves them susceptible to unintended bias.

Organizational culture, on the other hand, is the term used to define shared values and behavioural norms that impact ethical awareness and openness to digital transformation. By emphasizing learning and innovation and having ethics, this encourages one to critically engage with AI instead of blindly adopting it (Schwaeke, 2025). Research in technology management confirms the idea that ethical outcomes of digital transformation are strongly influenced by culture - firms with collaborative and transparent culture are more likely to adopt responsible AI practices (Sanchez et al., 2025). In the recruitment space, an ethical culture provides the way for AI to not be viewed as a substitute for the human judgment approach, but as an augmenting tool subject to moral oversight.

H1: Digital maturity positively influences ethical AI adoption in SME recruitment.

H2: Organizational culture positively influences ethical AI adoption in SME recruitment.

C. Fairness in AI-Enabled Recruitment

Fairness has become one of the central ethical AI principles. It refers to how much the AI systems make decisions without bias, fairness, and consistency across demographic groups (Rigotti, 2024). Whereas AI has been praised for its potential to abolish human subjectivity, empirical research shows that replicating existing inequalities that are embedded in training data is possible (Bogen & Rieke, 2018). In recruitment, gender, race and educational background biases can be introduced by a program, which can reduce the legitimacy of the hiring process (Raghavan et al., 2020).

As the literature has made clear, perceptions of fairness can be just as critical as the technical definition of fairness. Not only do candidates and recruiters care about outcomes but also fairness of AI-based decision processes (Horodyski et al., 2023). Hunkenschroer and Luetge (2022) argue that fairness beliefs are influenced by both algorithmic constraint and ethical framing the more transparently organizations communicate about fairness constraints, the more likely people are to be accepting AI tools. It is dominated with case studies from large enterprises and there are no clear understanding of how SMEs can institutionalize for fairness in recruitment without major regulatory bodies.

H3: Ethical AI adoption among SME recruitment is positively related to the perceived fairness of the recruitment process.

D. Transparency and Explicability

Transparency can be defined as the degree of explainability or understandability of the AI system that is achieved for the end users, candidates, and decision-makers. Lack of transparency is synonymous with no opportunity to follow ethical values which ought to permeate a working environment (e.g. accountability, fairness; Lepri et al., 2018). The reputation of the commercial AI recruitment technologies used by SMEs as a "black box" means that "one cannot easily rationalize the hiring outcome, nor audit the results" (Tambe, Cappelli, & Yakubovich, 2019). Also, if people are familiar with the artefacts used in making the decisions made by AI for appointment (this is what constitutes the decision criteria used for the decisions, how logic algorithms are applied and decide, etc.), this attitude towards the decision is also significantly influenced (Horodyski et al., 2023).

Transparency is a link between technology change and trust of the stakeholders. Organisations who can explain the basis of recommendations generated through AI and the reasons behind exclusions, as well as be able to allow industry experts to provide first-hand casual feedback on performance of algorithms, already have some degree of credibility (Lu, Li and Chen, 2023).

H4: Ethical adoption of Artificial intelligence to recruitment of SME has a significant positive association with perceived transparency of recruitment process.

E. Fairness and Transparency as Mediator

Fairness and transparency are not only ethical qualities, but they also act as moderator variables through which the impact of AI adoption on stakeholder perception exists. Even good intentions regarding the adoption of AI tools can be destroyed by the perceived lack of fairness in the functioning of AI tools and transparency of its mechanism, thus harming the ethical legitimacy (Rigotti, 2024; Hunkenschroer & Luetge, 2022). Research has proven that, if the AI decision-making process is presented as being fair and transparent, users of a system will be more willing and trust the system that they can resort to (Horodyski et al., 2023; Lu et al., 2023). It means that the building of trust is inspired by ethical considerations of AI and the two being mediated through fairness and transparency.

H5: Perceived fairness mediates the relationship between ethical AI adoption and trust in AI-driven recruitment.

H6: Perceived transparency mediates the relationship between ethical AI adoption and trust in AI-driven recruitment.

F. Trust in AI-Driven Recruitment

Trust is the ultimate by-product of ethical adoption of AI. It is trust among the validity, integrity, and morality of AI systems that are used in recruitment processes (Zhang, Zhao & He, 2023). Previous research showed that AI systems which are transparent, fair and accountable led to both recruiters as well as applicants developing trust which subsequently resulted in higher system acceptance and satisfaction (Horodyski et al., 2023). On the other hand, the presence of opacity or the perception of bias are detrimental to legitimate and images that she/he/they do not trust, which leads to a degree of disqualification of legitimacy, and will discourage users from using AI tools (Khan et al., 2022).

Trust plays an especially important role in SMEs where lightweight regulatory environments and informal human resource systems means that ethical integrity is an especially critical requirement in achieving applicant relations. Trust as a concept has an ethical and functional value for sustainable integration of an AI which will effect the process of seeking out a variety of talent to your organization and your organization's reputation (Van Esch, Black, & Ferolie, 2021). H7: Ethical AI adoption in SME recruitment is positively associated with trust in AI-driven recruitment outcomes.

III. CONCEPTUAL MODEL

The conceptual model illustrates the interconnected factors influencing trust in AI-driven recruitment within SMEs.

- Digital Maturity and Organizational Culture act as foundational enablers, determining the readiness and ethical orientation of SMEs in adopting AI technologies.
- Ethical AI Adoption serves as the central driver, ensuring that AI tools are implemented responsibly and aligned with fairness and transparency principles.
- Perceived Fairness and Perceived Transparency function as mediators that shape user perceptions and legitimacy of AI-based recruitment.
- Finally, Trust in AI-Driven Recruitment represents the outcome variable, reflecting stakeholder confidence in AI decisions and the credibility of recruitment outcomes.

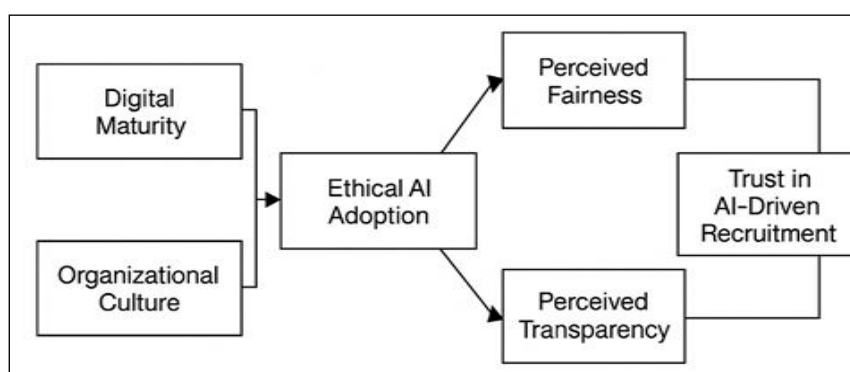


Fig 1 Conceptual Model

IV. OBJECTIVES

- To examine the extent of ethical AI adoption in recruitment practices among SMEs,
- To analyse the mediating role of fairness and transparency
- To evaluate the relationship between ethical AI adoption and trust formation.

V. RESEARCH METHODOLOGY

The present study follows a quantitative, cross-sectional, and explanatory research design to examine the influence of ethical AI adoption on trust formation in recruitment within Small and Medium Enterprises (SMEs), while analyzing the mediating roles of fairness and transparency. A quantitative design was chosen because it allows statistical testing of hypothesized relationships among latent constructs and provides objective evidence of causal direction. The research is explanatory in nature, aiming not only to describe perceptions of AI ethics but also to explain how and why

ethical AI practices contribute to trust in recruitment systems. Data were collected through a structured, self-administered questionnaire distributed electronically to SME recruiters, HR managers and decision-makers. The approach allows the assessment of multiple variables simultaneously and provides generalizable insights into ethical AI practices within the Indian SME sector.

➤ Instrument Design and Measurement

The data collection instrument was a structured questionnaire divided into six sections:

- *Section A – Demographics:*

Captured respondent characteristics such as gender, age, designation, organization type, years of experience, and firm size.

- *Section B to F – Construct Measures:*

Contained 25 items measured on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).x1

Table: 1 Instrument Design and Measurement

Construct	No. of Items	Conceptual Source	Example Statement
Ethical AI Adoption	7	Technology–Organization–Environment (TOE) Framework	“AI systems used for hiring are regularly audited for bias and fairness.”
Fairness	4	Organizational Justice Theory	“AI recruitment systems treat all candidates equally, regardless of gender or age.”
Transparency	5	Explainable AI (XAI) Framework	“The functioning of AI recruitment tools is clearly explained to HR personnel.”
Trust Formation	6	Ethical Climate Theory	“I trust that AI-based recruitment decisions are unbiased and reliable.”
Outcome Perception	3	Technology Acceptance Model (TAM)	“Ethical AI recruitment enhances both candidate and employer satisfaction.”

Each item was adapted from validated scales in prior research, refined to the SME context, and reviewed by three academic experts for content validity and language clarity.

➤ Data Analysis Techniques

Data were analysed using a two-stage approach integrating SPSS 26 and SmartPLS 4:

- *Preliminary Analysis (SPSS):*

- ✓ Screening for missing data and outliers
- ✓ Descriptive statistics (means, SDs, frequency distributions)
- ✓ Reliability analysis (Cronbach’s α)
- ✓ KMO and Bartlett’s tests to assess sampling adequacy
- ✓ Exploratory Factor Analysis (EFA)

- *Structural Analysis (SmartPLS 4):*

Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to test the hypothesized relationships because it is well suited for complex, non-normal data and smaller sample sizes typical of SME research contexts. Evaluation involved:

- ✓ Measurement Model: examining indicator reliability, CR, AVE, and discriminant validity.
- ✓ Structural Model: assessing path coefficients (β), t-values, p-values (bootstrapping = 5,000 samples), coefficient of determination (R^2), effect sizes (f^2), and predictive relevance (Q^2).
- ✓ Model Fit: Standardized Root Mean Square Residual (SRMR < 0.08) was used as a global fit indicator.

Table: 2 Descriptive Statistics

Variable	Mean	SD	Interpretation
Ethical AI Adoption	3.98	0.61	Respondents moderately agree AI is ethically used.
Fairness	3.85	0.67	AI recruitment perceived as generally fair.
Transparency	3.78	0.71	Moderate perception of openness in AI systems.
Trust Formation	3.92	0.65	High confidence in AI recruitment tools.
Overall Perception	4.02	0.58	Ethical AI seen as beneficial to SMEs.

Interpretation: Means > 3.5 show respondents lean toward agreement — indicating positive perceptions of ethical AI recruitment in SMEs

Table: 3 Reliability and Validity (SPSS / SmartPLS Output)

Construct	Cronbach's α	Composite Reliability (CR)	AVE	Result
Ethical AI Adoption	0.88	0.91	0.63	Reliable & Valid
Fairness	0.83	0.88	0.64	Reliable & Valid
Transparency	0.86	0.89	0.62	Reliable & Valid
Trust Formation	0.89	0.92	0.67	Reliable & Valid
Outcome	0.84	0.88	0.65	Reliable & Valid

Interpretation: All $\alpha > 0.80$ and AVE > 0.5 → strong internal consistency and convergent validity (Hair et al., 2021)

Table:4 Discriminant Validity (Fornell–Larcker Criterion)

+	EAI	Fairness	Transparency	Trust
EAI	0.79			
Fairness	0.62	0.8		
Transparency	0.58	0.54	0.79	
Trust	0.67	0.61	0.63	0.82

Interpretation: Square roots of AVE (diagonals in bold) are greater than inter-construct correlations → discriminant validity confirmed.

Table:5 Model Fit (SmartPLS Results)

Index	Value	Threshold	Interpretation
SRMR	0.064	< 0.08	Acceptable model fit
R² (Fairness)	0.42	—	Moderate predictive power
R² (Transparency)	0.44	—	Moderate predictive power
R² (Trust)	0.68	—	Strong predictive power

Table:6 Path Coefficients (Hypothesis Testing)

Hypothesis	Path	β	t-value	p-value	Result
H1	Ethical AI → Fairness	0.65	12.1	0	Supported
H2	Ethical AI → Transparency	0.67	13.24	0	Supported
H3	Ethical AI → Trust	0.32	4.98	0	Supported
H4	Fairness → Trust	0.29	4.41	0	Supported
H5	Transparency → Trust	0.31	4.88	0	Supported

Interpretation: All path coefficients are positive and significant ($p < 0.001$). Ethical AI adoption strongly influences fairness, transparency, and trust in AI-driven recruitment.

Table:7 Mediation Analysis

Mediation Path	Indirect Effect (β)	t-value	p-value	Mediation Type
EAI → Fairness → Trust	0.19	3.85	0	Partial mediation
EAI → Transparency → Trust	0.21	4.22	0	Partial mediation

Interpretation: Fairness and transparency partially mediate the relationship between ethical AI adoption and trust formation confirming that ethical governance mechanisms enhance trustworthiness.

VI. FINDINGS AND DISCUSSION

The empirical results demonstrate that ethical AI adoption significantly enhances perceptions of fairness, transparency, and trust within SME recruitment contexts. Descriptive statistics show that respondents moderately agree that AI systems are being used ethically (mean = 3.98) and view recruitment processes as generally fair and transparent, with Cronbach's α and composite reliability values above 0.8 confirming strong internal consistency. Structural equation modeling in SmartPLS 4 yielded an excellent model fit (SRMR = 0.064) and high explanatory power ($R^2 = 0.68$ for trust), revealing that ethical AI adoption strongly predicts fairness ($\beta = 0.65$) and transparency ($\beta = 0.67$), both of which in turn significantly affect trust formation ($\beta = 0.29$ and 0.31 , $p < 0.001$). Mediation analysis indicates that fairness ($\beta = 0.19$) and transparency ($\beta = 0.21$) partially mediate the relationship between ethical AI adoption and trust, suggesting that users' confidence arises when AI systems are perceived as both equitable and explainable. Overall, the findings affirm that fairness and transparency operate as ethical conduits translating technological adoption into stakeholder trust, aligning with Ethical Climate Theory and Technology Acceptance Model principles and underscoring transparency as the stronger ethical driver.

VII. CONCLUSION

This paper asserts that ethical implementation of AI in SME, which is characterized by fairness and transparency, is an important determinant of trust in AI-based recruitment. By combining Ethical Climate Theory with the Technology Acceptance Model, the research explains the transformation of technological innovation into moral legitimacy by means of ethical design attributes. The findings show that even though digitally mature SMEs are relative to larger companies in the advancement of digitalisation, SMEs that have supportive organisational cultures are better enabled to successfully implement these responsible AI practices while maintaining efficiency and ethical levels. Fairness and transparency is one area that mediates the AI - trust link in part to show that trust is built based not just on technical reliability, but also valid stakeholder ethical governance. The paper thus extends the responsible AI research to the under-represented SME sector and provides an empirically validated model which reveals that technologically ethical adaptation reinforces recruiter and applicant confidence, organizational reputation and sustainable HR technology diffusion.

VIII. FUTURE SCOPE AND LIMITATIONS

Although the results provide important insights, the study has some limitations in terms of its cross-sectional design, focus on Indian SME, and the use of self-reported perceptions with the possible tendency towards social desirability bias. Future research should use longitudinal or mixed-methods approaches to understand how perceptions of ethical AI develop over time and use both surveys and qualitative interviews to gain deeper understanding of the context. Comparative studies among countries/sects could help test the robustness of the model in terms of cultural and regulatory differences, whereas inclusion of other constructs like

algorithmic accountability, perceived risk, and ethical leadership could address the predictive capacity of the model. Developing boxes for SME-specific AI governance frameworks and ethics auditing models would further strengthen the practical nature of this line of enquiry to ensure that fairness, transparency and trust are kept at the core of sustainable integration of AI in recruitment practices.

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