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AI-POWERED RECRUITMENT: EXPLORING AWARENESS, ADOPTION AND TRUST AMONG HR PROFESSIONALS IN INDIA

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ABSTRACT

Artificial Intelligence (AI) is increasingly transforming recruitment by supporting organizations in screening candidates, improving efficiency, reducing potential bias, and facilitating data-driven hiring decisions. This study examines the awareness, adoption, perceptions, and trust associated with AI-based recruitment among HR professionals in the Indian job market. The study adopts a descriptive and empirical research design, with primary data collected through a structured questionnaire from 200 HR professionals, recruiters, and hiring managers across diverse industries. The collected data were analyzed using SPSS through descriptive statistics and the Chi-square test. The findings highlight that successful AI adoption in recruitment depends not only on technological capabilities but also on organizational readiness, employee awareness, trust, and ethical safeguards. The study recommends strengthening AI-related training, promoting explainable and transparent systems, and adopting a hybrid approach that combines AI-driven efficiency with human judgment in recruitment decisions.

Keywords: Talent acquisition, Hiring decisions, HR professionals, Trust, Organizational readiness

I. INTRODUCTION

Recruitment is one of the most important functions of Human Resource Management (HRM), as the quality of recruitment decisions directly influences an organization's ability to acquire and develop suitable talent. Traditionally, recruitment decisions have depended largely on the experience, intuition, and professional judgment of recruiters. Although human judgment remains essential in evaluating candidates, conventional recruitment practices may be constrained by limited information, time pressures, subjective evaluations, and unconscious biases. These challenges have increased the need for more efficient and evidence-based approaches to talent acquisition.

The rapid advancement of Artificial Intelligence (AI) has introduced significant changes in the way organizations identify, evaluate, and select potential candidates. AI-enabled recruitment tools are increasingly being used for activities such as resume screening, candidate matching, interview scheduling, communication with applicants, and predictive assessment. By processing large volumes of information and identifying patterns within candidate data, AI can assist recruiters in making faster and more data-driven decisions. Consequently, AI is increasingly viewed not as a replacement for recruiters but as a decision-support mechanism that can complement human expertise in the recruitment process.

The potential benefits of AI-based recruitment include improved operational efficiency, reduced time-to-hire, consistent candidate evaluation, and the possibility of reducing certain forms of human bias. However, the integration of AI into recruitment also raises important concerns. Algorithmic bias, lack of transparency, data privacy, ethical considerations, and excessive reliance on automated recommendations may affect confidence in AI-assisted hiring. Furthermore, the effectiveness of AI adoption may vary according to organizational resources, technological readiness, employee familiarity, and trust in AI-based systems.

The Indian job market provides an important context for examining these developments because of its large and diverse workforce, expanding digital ecosystem, and increasing use of technology in organizational processes. While technology-intensive sectors have demonstrated greater exposure to AI-based recruitment, adoption across other sectors may be influenced by organizational size, infrastructure, awareness, and perceived risks. Understanding how HR professionals perceive and trust AI is therefore important for assessing its effective integration into recruitment practices.

Against this background, the present study examines the awareness, adoption, and perceptions of AI-based recruitment among HR professionals, recruiters, and hiring managers in India. The study also investigates the relationship between organizational size and trust in AI recruitment tools. By examining both the perceived benefits and concerns associated with AI, the study seeks to provide insights into the conditions necessary for responsible and effective AI adoption in talent acquisition.

The study recognizes that recruitment remains a human-centred process in which professional judgment, contextual understanding, and interpersonal evaluation continue to play an important role. Therefore, rather than viewing AI as a substitute for human decision-making, the study considers AI as a complementary technology that can support recruiters in improving efficiency and decision quality. This perspective provides a basis for understanding the emerging role of AI in shaping contemporary recruitment practices in the Indian job market.

II. OBJECTIVES

- To examine the level of awareness and adoption of Artificial Intelligence (AI) tools in recruitment processes among organizations in the Indian job market.

- To find the significant association between organization size and trust in AI recruitment tools.
- To provide recommendations for improving AI implementation in recruitment practices to maximize benefits and minimize risks in the Indian job market context.

III. SCOPE

This study focuses on exploring the role of Artificial Intelligence (AI) as a "sixth sense" in enhancing recruitment decisions within the Indian job market. The research is limited to the perceptions and experiences of HR professionals, recruiters, and managers who are either currently using AI-enabled recruitment tools or are familiar with their application in hiring processes.

IV. LIMITATIONS

The study includes a sample of 200 respondents which may not fully represent the diverse Indian job market. Responses are self-reported and may reflect personal biases or limited awareness of AI applications. As AI technology is rapidly evolving, the findings are time-bound and may not capture future advancements. The study takes a broad view across industries without detailed sector-specific analysis. Finally, it focuses on the perspectives of recruiters and HR professionals, excluding the views of job seekers who also experience AI in recruitment.

V. METHODOLOGY

The study follows a descriptive and empirical approach, using survey-based data collection to examine awareness, adoption, and perceptions of AI in recruitment. The target population includes HR professionals, recruiters, and hiring managers working in various sectors of the Indian job market. A sample size of 200 respondents was selected using a purposive sampling method to ensure that participants have experience or familiarity with recruitment processes. Primary data was collected through a structured questionnaire. The questionnaire was divided into sections covering demographic details, awareness and adoption of AI, perceptions of AI as a recruitment tool, and future expectations. The collected data was coded and analyzed using SPSS software. Descriptive statistics (frequencies, percentages, mean scores) were used to examine levels of awareness and adoption. Chi square test was made to check association between demographic factors and trust.

VI. REVIEW OF LITERATURE

AI is promoted as a tool to minimize human biases in recruitment by evaluating candidates purely on merit. Yet, evidence shows that algorithms can inherit biases from historical data, leading to discrimination in hiring outcomes **(Bogen & Rieke, 2018).**

AI-based chatbots and virtual assistants are increasingly used to improve candidate communication, reduce response times, and create a positive recruitment experience. However, over-automation may reduce the "human touch" that candidates value during hiring. **(Langer et al., 2019).**

AI is increasingly seen as a "decision support system" that complements human intuition rather than replacing it. Recruiters find AI valuable for initial screening, yet believe final hiring decisions should involve human judgment **(Black & van Esch, 2020).**

Despite its benefits, AI in recruitment presents risks such as algorithmic bias, lack of transparency, and over-reliance on machine outputs. Data privacy and ethical concerns further limit trust in AI-driven hiring practices **(Raghavan et al., 2020).**

Organizations adopting AI in recruitment have reported significant reductions in hiring costs and time-to-fill vacancies. Automation of repetitive tasks allows HR professionals to focus on strategic aspects of talent acquisition **(Davenport et al., 2020).**

Awareness of AI tools is steadily growing among recruiters globally, but adoption rates differ across industries and geographies. In India, IT companies are early adopters, while many traditional industries remain cautious due to limited knowledge and infrastructure **(LinkedIn, 2020; Nasscom, 2021).**

In a large-scale field experiment, women were more likely to complete applications assessed by AI compared to male applicants. Recruiter bias based on gender disappeared when AI assessment obscured gender identifiers, demonstrating AI's potential as a bias-mitigating anchor, particularly when human biases are controlled**. (Leibbrandt, 2024)**

Research indicates that AI alone does not guarantee diversity in hiring. Improvements in inclusion only occurred when AI tools provided explainable outputs, qualitative objectives were emphasized (not just numerical targets), and organizational diversity guidelines were in place. **(Zheng et al., 2025)**

VII. DATA ANALYSIS AND INTERPRETATION

Respondent Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-30	104	52.0	52.0	52.0
	31-40	36	18.0	18.0	70.0
	41-50	60	30.0	30.0	100.0
	Total	200	100.0	100.0	

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Table 1: Personal factors of the respondents

Source: Primary Data

Analysis:

The majority of respondents (52%) belong to the 20–30 age group, followed by 30% in the 41–50 age group and 18% in the 31–40 age group. The sample therefore includes both younger and experienced HR professionals.

Interpretation:

The sample is dominated by young professionals, but with a substantial number of mid-career respondents, ensuring perspectives from both early-career and experienced individuals.

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	118	59.0	59.0	59.0
	female	82	41.0	41.0	100.0
	Total	200	100.0	100.0	

Table 2: Personal factors of the respondents

Source: Primary Data

Analysis:

The sample consists of 59% male and 41% female respondents, indicating representation from both gender groups.

Interpretation:

Both male and female perspectives are adequately represented, providing a balanced representation in the findings.

Industry Sector

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	IT/Software	108	54.0	54.0	54.0
	Manufacturing	14	7.0	7.0	61.0
	Banking/Finance	35	17.5	17.5	78.5
	Healthcare	21	10.5	10.5	89.0
	Education	22	11.0	11.0	100.0
	Total	200	100.0	100.0	

Table 3: Personal factors of the respondents

Source: Primary Data

Analysis:

The majority of respondents (54%) are from the IT/Software industry, followed by 17.5% from Banking/Finance. Other sectors include Healthcare (10.5%), Education (11%), and Manufacturing (7%).

Interpretation:

The respondents represent multiple industry sectors, although the sample is predominantly drawn from the IT/Software sector.

Organization Size

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small (1-50)	21	10.5	10.5	10.5
	Medium (51-250)	95	47.5	47.5	58.0
	Large (251+)	84	42.0	42.0	100.0
	Total	200	100.0	100.0	

Table 4: Personal factors of the respondents

Source: Primary Data

Analysis:

Nearly half of the respondents (47.5%) belong to medium-sized organizations, followed by large organizations (42%) and small organizations (10.5%).

Interpretation:

Nearly half the respondents are from medium-sized firms, followed closely by large organizations, indicating strong representation from organizations with higher recruitment needs and possible AI adoption capacity.

Role in Hiring Process

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Recruiter	133	66.5	66.5	66.5
	HR Manager	41	20.5	20.5	87.0
	Hiring Manager	14	7.0	7.0	94.0
	Administrator	12	6.0	6.0	100.0
	Total	200	100.0	100.0	

Table 5: Personal factors of the respondents

Source: Primary Data

Analysis:

The majority of respondents are Recruiters (66.5%), followed by HR Managers (20.5%), Hiring Managers (7%), and Administrators (6%).

Interpretation:

The predominance of recruiters in the sample indicates that most respondents have direct involvement in recruitment activities, making their perceptions particularly relevant to the study.

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Descriptive Statistics of Respondents' Perceptions of AI in Recruitment (Mean and Standard Deviation)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Familiarity with AI in recruitment	200	1	5	2.61	.955
AI improves accuracy of candidate selection	200	1	5	3.12	1.315
AI reduces human bias in hiring	200	2	5	3.45	.950
AI enhances the efficiency of the recruitment process	200	1	5	3.09	1.189
AI can predict candidate job performance better than human intuition alone	200	1	5	3.05	1.327
AI-supported recruitment leads to better quality hires	200	1	5	3.02	1.320
I trust AI recommendations in the hiring process	200	1	5	3.10	1.313
AI limits the role of human judgment in recruitment	200	1	5	3.23	1.259
The use of AI in recruitment raises ethical concerns	200	1	5	2.95	1.065
AI recruitment tools are easy to integrate into existing HR systems	200	1	5	3.02	1.215
AI reduces the time-to-hire significantly	200	1	5	3.39	1.410
Valid N (listwise)	200				

Table 6: Descriptive Statistics (Mean & SD) of Perceptions Regarding AI's Role in Recruitment

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Where, N = number of respondents; *Minimum* = lowest response; *Maximum* = highest response; *Mean* = average response score; *Std. Deviation* = degree of variation in responses. Responses were measured on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Analysis:

The table presents the mean and standard deviation of responses for 11 items measuring respondents' perceptions regarding the role of AI in recruitment, based on a 5-point Likert scale. The mean scores range from 2.61 to 3.45, while the standard deviation ranges from 0.950 to 1.410. The highest mean score is observed for "AI reduces human bias in hiring" (M = 3.45, SD = 0.950), followed by "AI reduces the time-to-hire significantly" (M = 3.39, SD = 1.410). The lowest mean score is recorded for "Familiarity with AI in recruitment" (M = 2.61, SD = 0.955).

Other items, such as "AI limits the role of human judgment in recruitment" (M = 3.23, SD = 1.259) and "AI improves accuracy of candidate selection" (M = 3.12, SD = 1.315), also show relatively higher mean scores. The standard deviation values indicate a moderate level of variation in respondents' perceptions across the different items.

Interpretation:

The findings indicate that respondents generally recognise the positive role of AI in improving recruitment efficiency, particularly in reducing human bias and shortening the time required for hiring. However, the comparatively lower mean for familiarity with AI suggests that respondents may have limited familiarity with AI-based recruitment tools. Relatively higher score for the statement that AI limits human judgment indicates that respondents acknowledge the potential reduction in human involvement in recruitment decisions. Overall, the findings suggest that respondents view AI positively in terms of operational efficiency, while perceptions regarding familiarity and the role of human judgment remain comparatively less favourable.

Industry Sector * Does organization use AI tools in recruitment Crosstabulation

Count

		Does organization use AI tools in recruitment			
		Yes	No	Planning to adopt soon	Total
Industry Sector	IT/Software	84	24	0	108
	Manufacturing	7	0	7	14
	Banking/Finance	21	0	14	35
	Healthcare	7	14	0	21
	Education	0	0	22	22
Total		119	38	43	200

Table 7: Crosstabulation of Industry Sector and Use of AI Tools in Recruitment

Analysis:

Out of 200 respondents, 119 organizations (59.5%) reported using AI tools in recruitment, while 38 (19%) do not use them, and 43 (21.5%) are planning to adopt them soon.

Interpretation:

The results highlight clear differences across industries in adopting AI recruitment tools. The IT/Software sector leads in implementation, reflecting its technological orientation and early adoption culture. Banking/Finance also shows strong adoption with significant future plans, indicating AI's growing importance in data-driven sectors. Healthcare and Manufacturing exhibit limited adoption, suggesting barriers such as cost, complexity, or lack of awareness. The Education sector has not yet implemented AI but shows strong intention to adopt, suggesting future potential.

Organization Size * Familiarity with AI in recruitment Crosstabulation

Count

		Familiarity with AI in recruitment				
		Very familiar	Somewhat familiar	Neutral	Somewhat unfamiliar	Total
Organization Size	Small (1-50)	0	7	14	0	21
	Medium (51-250)	6	75	14	0	95
	Large (251+)	7	19	17	41	84
Total		13	101	45	41	200

Table 8: Crosstabulation of Organization Size and Familiarity with AI in Recruitment

Analysis:

Out of 200 respondents, 101 respondents (50.5%) reported being somewhat familiar with AI in recruitment. The distribution of familiarity levels differs across small, medium, and large organizations.

Interpretation:

The cross-tabulation indicates that respondents from medium-sized organizations predominantly reported being somewhat familiar with AI in recruitment. Respondents from small organizations showed a relatively higher proportion of neutral responses, while respondents from large organizations demonstrated a more varied distribution across the familiarity categories. Overall, the findings indicate differences in the pattern of AI familiarity across organization-size categories.

Chi-square Analysis: Organization size and Trust in AI recruitment tools

Hypothesis:

- **Null Hypothesis (H_0):**

There is no significant association between organization size and trust in AI recruitment tools among organizations in the Indian job market.

- **Alternative Hypothesis (H_1):** There is a significant association between organization size and trust in AI recruitment tools among organizations in the Indian job market.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	131.692[a]	8	.000
Likelihood Ratio	162.682	8	.000
N of Valid Cases	200		

a. 4 cells (26.7%) have expected count less than 5. The minimum expected count is 2.10.

Table 9: Chi-square Analysis

Interpretation:

The Pearson Chi-square test reveals a statistically significant association between organization size and trust in AI recruitment tools ($\chi^2 = 131.692$, df = 8, $p < .001$). Since the p-value is less than 0.05, the null hypothesis is rejected. Therefore, the findings indicate that trust in AI recruitment tools is significantly associated with organization size.

Result:

There is a statistically significant association between organization size and trust in AI recruitment tools.

VIII. FINDINGS

- The demographic profile indicates that the sample is predominantly composed of young HR professionals from the IT/Software sector and medium-to-large organizations, with recruiters forming the majority of respondents.
- Respondents recognize the potential benefits of AI in enhancing efficiency, fairness, and reducing time-to-hire, but their limited familiarity and concerns about ethics reflect the need for greater awareness, training, and trust-building measures.
- Among the respondents surveyed, adoption of AI in recruitment is highest in the IT/Software and Banking/Finance sectors, while adoption is emerging in Healthcare and Manufacturing, indicating potential for further adoption across sectors.
- Familiarity with AI is highest in medium organizations, neutral in smaller firms, and divided in larger organizations. This suggests that AI awareness campaigns and training are particularly needed in large organizations where familiarity is inconsistent.

IX. SUGGESTIONS

- HR departments should organize structured training programs and knowledge-sharing workshops to enhance awareness and understanding of AI-based recruitment tools among recruiters and hiring managers.
- Industries with higher adoption rates, such as IT and Banking, can serve as benchmarks for other sectors. Sectors like Education and Healthcare may initiate AI implementation through pilot projects to gradually integrate such technologies into their recruitment systems.
- HR leaders in smaller firms can adopt subscription-based AI platforms or seek support through industry collaborations and government initiatives to reduce costs.
- Organizations should prioritize the adoption of explainable AI systems and establish regular auditing mechanisms to ensure fairness, reduce bias, and address ethical concerns in recruitment decisions.
- Recruitment should blend AI efficiency for routine tasks with human judgment for final decisions.

HR leaders in Education and Manufacturing should invest in AI recruitment systems to stay competitive and future-ready.

X. CONCLUSION

Artificial Intelligence has firmly positioned itself as a strategic enabler in modern recruitment, reshaping how organizations attract, evaluate, and select talent. Its ability to streamline processes, reduce time-to-hire, and provide data-driven insights is widely acknowledged across industries. However, the success of AI in recruitment is not determined by technology alone. It depends significantly on organizational readiness, the willingness of employees to embrace change, and the development of transparent and ethical frameworks that inspire trust.

Recruitment remains one of the most human-centred functions of HR, where qualities such as empathy, intuition, and cultural judgment play a decisive role. While AI can handle repetitive and operational tasks such as resume screening, scheduling, and candidate interaction, the ultimate hiring decision still requires human discernment. Thus, AI should not be perceived as a substitute for human expertise but rather as a complement that enhances accuracy, efficiency, and fairness in the recruitment process. The ideal approach lies in creating a hybrid recruitment model where AI augments human judgment while ensuring inclusivity, accountability, and transparency.

XI. FUTURE SCOPE

Future research on AI in recruitment can explore its long-term effects on employee retention, job satisfaction, and overall organizational performance. Comparative studies across industries

and geographies would provide deeper insights into variations in adoption and trust. Beyond recruitment, future studies may extend to other HR functions such as performance appraisal, training, and workforce planning, where AI is steadily gaining importance. Researchers can also investigate ethical frameworks and governance mechanisms to address bias, transparency, and data privacy concerns. Additionally, exploring candidate experiences and developing affordable AI solutions for small and medium enterprises (SMEs) can broaden the practical impact of AI-driven recruitment.

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