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A Study On Effectiveness Of Ai Adoption In Recruitment Process In Manufacturing Industry

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Abstract: The development of artificial intelligent has drastically changed a number of company operations, and one of the main sectors that has seen the biggest change is human resource (HR) management. Among HR tasks, hiring stands out as a crucial area where AI usage is becoming more widespread. This study looks at how AI affects efficiency, accuracy, cost, and candidate experience in order to assess how well it can improve hiring practices in businesses. AI is being used in recruiting for activities like candidate sourcing, resume screening, chatbot-assisted initial interviews, and even predictive analytics for candidate-job fit. For example, if previous hiring data is used, it may inadvertently reinforce preexisting biases if it is not handled appropriately. Furthermore, the absence of human judgement in some steps of the process could result in the exclusion of possible high-performing applicants who don't align with traditional data. There are also ethical concerns regarding data privacy and transparency in algorithmic decision-making.

Keywords: AI recruitment, HR technologies, AI-powered tools

1. INTRODUCTION

Artificial intelligence has become a potent instrument in the age of digital transformation, transforming a number of commercial operations, including human resource management. Recruitment is one of the most important HR tasks since it determines the caliber of human capital, which has a direct effect on organizational performance. Historically, hiring has required laborious procedures like reviewing resumes, setting up interviews, and assessing applicants—steps that are frequently prone to inefficiencies and human bias. By automating repetitive operations, increasing decision-making accuracy, and boosting recruiting efficiency overall, AI adoption in recruitment aims to overcome these issues. The purpose of this study is to investigate how well AI adoption works in organizational contexts during the hiring process. It aims to evaluate the impact of AI on important hiring parameters like diversity, time-to-hire, cost-per-hire, and candidate quality.

BACKGROUND OF THE STUDY

Any organization's core job has always been recruitment, which is essential to finding the best individuals to match the company's strategic objectives. recruiting has historically entailed manual procedures including reviewing resumes, setting up interviews, and using human judgement to make recruiting decisions. Although somewhat successful, these approaches are frequently expensive, time-consuming, and prone to unconscious biases.

RATIONALE FOR THE STUDY

It's critical for decision-makers in charge of technology investments as well as HR professionals to comprehend how AI works in hiring. With increasing pressure to attract and retain top talent, organizations must ensure that their recruitment strategies are both efficient and inclusive. AI has the potential to deliver on these fronts, but only if implemented thoughtfully.

2. NEED OF THE STUDY

Traditional corporate operations, especially in human resources (HR), have seen major changes as a result of the incorporation of AI into organisational processes. The use of AI-powered tools and systems is causing a significant change in recruitment, one of HR's most important tasks. AI is being utilised to improve the hiring process's speed and accuracy in a variety of areas, including applicant sourcing, resume screening, interview scheduling, and predictive analytics. This study is needed to assess the real-world impact of AI adoption and to determine whether it adds measurable value to recruitment practices.

3. OBJECTIVES OF THE STUDY

- To Assess the impact of AI adoption on the efficiency and speed of the recruitment process.
- To Evaluate the accuracy and fairness of AI-driven candidate screening and selection.
- To Analyse the cost-effectiveness of AI tools compared to traditional recruitment methods.
- To Examine the influence of AI on candidate experience and engagement.
- To Identify challenges and limitations associated with AI implementation in recruitment.

4. REVIEW OF LITERATURE

Samreen Jafri, Shiti Upreti, (2024). Effectiveness of AI for enhancing Decision -Making process of Recruitment in HRM process. The integration of Artificial Intelligence into the recruitment process represents a significant advancement in Human Resource Management, aiming to optimize the efficiency and effectiveness of hiring practices. This paper explores the effectiveness of AI in improving decision-making processes within HRM, focusing on machine learning's role in streamlining candidate sourcing, enhancing candidate experience, boosting screening efficiency, optimizing interview processes, and improving onboarding experiences.

Marcel Herold, Marc Roedenbeck, (2024). Usage of AI in the Recruitment and Selection Process: A Systematic Review and Computational Analysis. The aim is to identify which RSP stages have been the focus of AI and which algorithms are used. A taxonomy of AI research was used. The analysis combines a literature review and computational analysis, based on a qualitative content analysis, and computational analysis, using NLP. This paper contributes to expanding the general AI taxonomy by incorporating an ethical perspective. Additionally, it highlights which algorithms are predominately represented in research. Consequently, companies should prioritise implementing these algorithms, while research should aim to explore and test alternative options. This study is unique in its approach.

5. RESEARCH METHODOLOGY

The study uses a descriptive research design to examine the employee turnover intention and its impact of organizational performance. A sample size of 150 employees was selected using convenience sampling from a total population of 300. Data collection follows quantitative methods, and since the data is not normally distributed, non-parametric tools were applied for analysis.

6. DATA ANALYSIS AND INTERPRETATION

S.NO	CATEGORIES	SUB-CATEGORIES	NO.OF. RESPONDENTS	PERCENTAGE%
1.	AGE	UNDER 25	62	41.3
		26-35	48	32
		36-45	24	16
		46-55	8	5.3
		Above 55	8	5.3
2.	GENDER	Male	67	44.7
		Female	83	55.3
3.	EXPERIENCES (in years)	Less than 1 year	59	39.3
		1-3 years	49	32.7
		4-6 years	22	14.7
		7-10 years	10	6.7
		More than 10 years	10	6.7
4.	INCOME	10,000-20,000	36	24
		20,000-30,000	55	36.7
		30,000-40,000	33	22
		40,000-50,000	14	9.3
		Above 50,000	12	8

6. STATISTICAL TOOL

7.1 CORRELATION

Hypothesis:

H0: There is no significant correlation between the variables

H1: There is a significant relationship between the variables

	Mean	Std. Deviation	N
Years of experience	2.09	1.187	150
Ai helps to reduce time	1.35	.480	150

		of ai helps to reduce time	
Years of experience	Pearson Correlation	1	
	Sig. (2-tailed)		.193*
	N	150	150
Ai helps to reduce time	Pearson Correlation	.193*	1
	Sig. (2-tailed)	.018	
	N	150	150

*. Correlation is significant at the 0.05 level (2-tailed).

INFERENCE:

From the above test it is inferred that the correlation is used. It is observed that the variables are positively correlated, since the correlation coefficient is more than 0.05. Therefore, null hypothesis is rejected. Alternative hypothesis is accepted.

MANN-WHITNEY U TEST**Hypothesis:**

H0: There is no significant difference between the gender of the candidates with respect to the variable technical difficulties, privacy and security issues, Skills exhibition, communication and feedback.

H1: There is a significant difference between the gender of the candidates with respect to the variable technical difficulties, privacy and security issues, Skills exhibition, communication and feedback.

gender	N	Mean Rank	Sum of Ranks
male	68	73.26	4982.00
female	82	77.35	6343.00
Total	150		

a. Grouping Variable: gender **INFERENCE:**

From the above test it is inferred that the Mann – Whitney U Test was conducted on the sample data. The p value > 0.05, so the null hypothesis is accepted. Hence there is no significant difference between the mean rank of gender of the employees with the respect to the variables.

7.3 KRUSKALWALLIS HTEST

	N	Mean	Std. Deviation	Minimum	Maximum
age	150	2.01	1.129	1	5
Screening process fairly	150	2.29	1.200	1	5

Test distribution is Normal

INFERENCE

The Kolmogorov-Smirnov test for normality was conducted on the sample data, and it is found that the significance value (P value) is less than 0.05 i.e., $P < 0.05$. Therefore, the null hypothesis that the sample follows a normal distribution was rejected. The alternative hypothesis is accepted. The sample data deviates from the normal distribution.

8. SUMMARY OF FINDINGS

- 55.3% of respondent female.
- 41.3% of respondent under 25 age group.
- 39.3% of respondent are less than 1 year of experience.
- 36.7% of respondent gets 20,000 to 30,000 of salary.
- From the above test it is inferred that the correlation is used. It is observed that the variables are positively correlated, since the correlation coefficient is more than 0.05.
- Therefore, null hypothesis is rejected. Alternative hypothesis is accepted.
- 64.7% of respondent 'yes' AI hiring easier than traditional method.
- 35.3% of respondent significantly reduced time to shortlist candidates.
- 6% of respondent strongly agree AI initial screening process.
- 33.3% of respondent always hire deadlines compared to traditional methods.
- 32% of respondent satisfy to AI checks job candidates.
- 32% of respondent strongly agree and agree to AI screening process regardless of their background.
- 31.3% of respondent strongly agree AI screening process for decision making.
- 66.7% of respondent 'yes' AI-driven recruitment decision are fair.
- 35.3% of respondent agree AI saves companies money.
- From the above test it is inferred that the Mann – Whitney U Test was conducted on the sample data. The p value > 0.05 , So the null hypothesis is accepted. Hence there is no significant difference between the mean rank of gender of the employees with the respect to the variables.

9. SUGGESTIONS

- Organizations should improve personalization in AI-driven recruitment systems to cater to individual candidate needs.
- Enhancing communication during the hiring process is vital to keep candidates informed and engaged.
- Increasing transparency in AI-driven recruitment processes will build trust among candidates and stakeholders.
- A balance between AI-driven recruitment and human-led hiring processes will ensure a more holistic approach.
- Promoting ethical AI adoption in recruitment is essential to prevent biases and ensure fairness.
- Refining AI-powered candidate screening will improve the accuracy of candidate selection.

10. CONCLUSION

The way businesses handle talent acquisition has changed significantly with the introduction of AI into hiring procedures. By automating repetitive activities, optimising candidate-job matching, and improving decision-making accuracy, AI tools present promising solutions as businesses increasingly aim for efficiency, cost reduction, and improved candidate experiences. But this change also brings up significant issues about the efficiency, equity, and flexibility of the current organisational structures. Therefore, AI should not be viewed as a complete replacement for human judgment but rather as a powerful tool that complements and enhances human decision-making. A successful AI-driven recruitment strategy must balance automation with empathy, transparency, and inclusivity. In conclusion, the effectiveness of AI in recruitment lies not just in the technology itself, but in how it is applied.

BIBLIOGRAPHY

JOURNALS REFERED:

- **Robert Golej, (2024).** "Applying AI in the recruitment and selection process and building the organizational climate", Volume 7, Issue 8.
- **Samreen Jafri, Shiti Upreti, (2024).** "Effectiveness of AI for enhancing Decision Making process of Recruitment in HRM process", Volume 4, Issue 12.
- **Mirzam Arqy Ahmadi, (2024).** "The Impact of Artificial Intelligence on Organizational Attractiveness and Applicant Intent", Volume 4, Issue 4.
- **Marcel Herold, Marc Roedenbeck, (2024).** "Usage of AI in the Recruitment and Selection Process: A Systematic Review and Computational Analysis", Volume 5, Issue 1.
- **Satheeskumar, L., & Porselvi, T. (2023).** "Impact of Artificial Intelligence in Recruitment and Selection Practices in IT Companies", Volume 7, Issue 3.
- **Deepika Faugoo, (2023).** "AI-Driven Recruitment and Selection: Enhanced HR Decision Making with Accrued Benefits of Organizational Success", Volume 6, Issue 2.
- **Anusha Hewage, (2023).** "Exploring the applicability of AI in recruitment and selection processes", Volume 4, Issue 11.

WEBSITE REFERED:

- www.google scholar.com
- www.researchgate.com
- <https://roopauto.com/>
- <https://www.google.com/>