Impact of AI and Automation on Talent Acquisition and Employee Retention

Submitted by

Tarushi Singh (22GSOB1010204)

SCHOOL OF BUSINESS

BACHELOR OF BUSINESS ADMINISTRATION (SOB)

UNDER THE SUPERVISION OF

Dr. Namita Gupta

Designation: Faculty, School of Business

GALGOTIAS UNIVERSITY

ABSTRACT

This study looks into how artificial intelligence (AI) and automation are changing the way companies hire and keep their employees. Over the last few years, businesses have started using technology to make HR processes faster and smarter. AI tools are now helping with everything from shortlisting candidates to predicting who might leave the company.

This research combines insights from existing studies and a small survey conducted among HR professionals and employees. While AI clearly makes recruitment quicker and more data-driven, there are also concerns—like the lack of human connection or the fear of job loss. The aim of this paper is to explore both sides of the coin and help understand how AI can be used thoughtfully in the workplace.

1. INTRODUCTION

In today's workplaces, technology is becoming more than just a support tool—it's taking center stage, especially in Human Resource Management. Companies are using AI and automation in hiring processes, employee engagement, and even performance management. While these changes are helping businesses become more efficient, they are also creating new challenges for employees and HR professionals alike.

This paper tries to understand how AI is being used in talent acquisition and employee retention. On one hand, AI is helping companies make quicker and smarter hiring decisions. On the other hand, employees sometimes feel uncertain about how technology is affecting their roles and futures. This project is my attempt to look at these developments in a balanced way.

2. LITERATURE REVIEW

Many researchers have talked about how AI is transforming HR. According to Bersin (2018), AI-based hiring tools have made it possible to sort resumes and match job roles much faster. However, not everything is perfect. Bessen (2019) pointed out that automation might make some employees feel insecure about their jobs, even if the tech is meant to help them.

Upadhyay and Khandelwal (2018) raised concerns about bias in AI algorithms—if the data used to train AI isn't fair, the decisions won't be fair either. Deloitte (2020) found that companies using AI in HR saw better retention rates, mainly because AI helped them understand employee needs better.

Overall, while the benefits are clear, most experts agree that human oversight is still necessary to make AI work well in HR.

3. RESEARCH METHODOLOGY

This study followed a descriptive research design to explore the influence of AI and automation on talent acquisition and employee retention in Indian organizations. A mixed-method approach was adopted to ensure a well-rounded understanding of the subject.

- **Primary Data:** The primary data was collected through an online survey conducted with 50 HR professionals from the IT, Finance, Manufacturing, and Services sectors. The respondents included early-career professionals to senior HR managers, providing a variety of perspectives. The survey included multiple-choice, Likert scale, and open-ended questions aimed at understanding both the adoption and perception of AI tools in HR.

- **Secondary Data:** In addition to the survey, academic journals, industry reports (like those by Deloitte, NASSCOM, SHRM India), and organizational case studies were analyzed to provide context and support for the findings.

Data collected was analyzed using basic statistical tools like Microsoft Excel and SPSS. Thematic analysis was also conducted on open-ended responses to capture qualitative nuances, such as ethical concerns and user perceptions.

4. DATA ANALYSIS AND INTERPRETATION

The data collected from 50 HR professionals revealed several key insights:

- **AI in Recruitment:**

  o 68% of organizations reported using AI in their recruitment processes.
  o The most common tools used were Applicant Tracking Systems (82%), chatbots (62%), and video interview analytics (50%).
  o 70% noted a reduction in time-to-hire, with an average improvement of 40% across sectors.
  o 62% believed AI improved the quality of hiring decisions.
  o Positive impacts were noted in resume screening (89%), interview scheduling (76%), and candidate experience (74%).

- **AI in Employee Retention:**

  o Only 44% of respondents said their organizations use AI for retention-related activities like predicting attrition or monitoring engagement.
  o 52% reported using predictive analytics tools, especially in IT and Finance, for early intervention strategies.

- While 60% found AI helpful in identifying at-risk employees, 50% still felt AI lacked the human sensitivity required to manage emotional aspects of retention.

Challenges Faced:

- 40% cited lack of AI skills in HR teams.
- 35% mentioned concerns over data privacy.
- High implementation costs (30%) and integration issues (25%) were also noted.
- Ethical concerns such as algorithmic bias (52%) and lack of transparency (46%) were prevalent.

These insights reflect that while AI is gradually being embraced in recruitment, its role in employee retention is still evolving. There's a positive outlook, but also a shared sense that human judgment must continue to play a key role.

5. LIMITATIONS

While the study provides important insights, a few limitations should be acknowledged:

- The sample size was limited to 50 HR professionals, which may not represent all industries or organizational sizes across India.

- The study focused more on mid-to-large organizations, with limited insights from small enterprises or startups.

- Data is self-reported, which may include response bias or subjective interpretation.

- As AI in HR is still a developing field, long-term impacts—especially on retention—are yet to be fully observed.

- The tools and technologies discussed are constantly evolving, and the findings reflect the state of adoption as of 2025.

6. CONCLUSION

It's clear that AI and automation are changing the way companies hire and retain talent. The benefits—like saving time and improving decisions—are real. But at the same time, there are concerns about fairness, transparency, and the emotional impact on employees.

Organizations need to find the right balance. AI should be used to support HR teams, not replace them. When used thoughtfully, technology can make work better for both employers and employees. Future research should keep looking into how AI is affecting different types of workers over time.

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