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A STUDY ON TALENT ACQUISITION EFFICIENCY VIA AUTOMATION AT TURBOHIRE

[#1]Ms. M. RAVALI REDDY, *Assistant Professor,*
[#2]BATTU VAMSHIKAR, *PG Student,*
Department of MBA,
J.B. INSTITUTE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS), HYDERABAD.

ABSTRACT: This Research shows how AI-driven hiring tools improve decision-making and speed up the process by looking at how automation affected TurboHire's recruitment effectiveness. The Researchdelves into how workflow orchestration, automated screening, applicant matching, and resume parsing can improve the quality and consistency of candidate evaluation, along with reducing staff expenses and accelerating the hiring process. Problems with adoption, poor data quality, and the mismatch between humans and technology are covered in the article. Examining performance indicators, organizational processes, and recruiter insights, this Researchdelves into the possibility of automation enhancing operational efficiency. In addition to providing guidance to businesses seeking to alter their hiring methods, the results show that TurboHire's automation technology substantially boosts hiring efficiency.

Keywords: *Talent Acquisition, Recruitment Automation, TurboHire, AI in HR, Hiring Efficiency, Candidate Screening, Resume Parsing, Workflow Automation, HR Technology, Time-to-Hire Reduction, Talent Management, Digital Recruitment Tools*

1. INTRODUCTION

In today's highly competitive global labor market, the capacity of organizations to find, hire, and keep the top talent is more important than ever. The increasing complexity and volume of hiring demands renders ineffective the time-consuming and human-dependent traditional talent acquisition strategies. Companies face a number of issues when hiring new employees, including lengthy and inaccurate evaluation processes, higher recruitment expenses, and a less than ideal candidate experience.

More opportunities than ever before exist to improve the efficiency of the hiring process as a result of automation, which has greatly enhanced digital technology. There are several ways in which technology is simplifying the hiring process. Automated testing, chatbots, predictive analytics, ATS, and AI-driven resume reviews are all part of this category. More people can be hired more quickly, precisely, and broadly thanks to these technological advancements. In addition to streamlining HR processes, these solutions also make data-driven hiring decisions possible. This allows businesses to easily adjust to shifting workforce needs and market circumstances.

It is essential to evaluate the effects of automation on the employment process, regardless of how many businesses use it. How much automation helps shorten the hiring process, what effect does it have on

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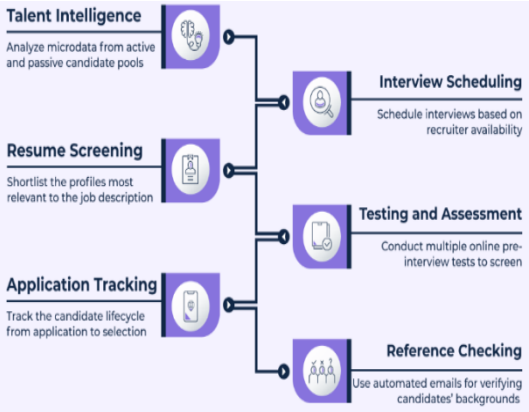
the candidate experience, and what is the morality of automated decision-making are all topics of continuing debate. To employ new technology in a way that is open, egalitarian, and human-centered, businesses need to understand how these characteristics mix.

This Research seeks to determine the impact of automated technology on the success of talent acquisition by analyzing key recruitment metrics such as time-to-hire, quality-of-hire, cost-per-hire, and recruiter productivity. Incorporating automation into the hiring process has several potential advantages and disadvantages, and this paper intends to analyze them all in depth using actual data, organizational case studies, and current trends. Finding out how legislators, practitioners, and HR directors might collaborate to create an automated people acquisition system that is more inclusive, efficient, and flexible is the study's ultimate goal.

2. TALENT ACQUISITION



Talent Intelligence: In order to sift through microdata from internal and external workers, as well as active and passive candidate pools, talent intelligence systems integrate AI with big data. We attempt to select products that are in line with our company's ideals. You may learn a lot about how to motivate your employees and attract top talent by analyzing the perks and pay plans that your competitors provide.

Resume Screening: Human resources professionals devote a great deal of effort to researching and assessing each applicant. Applicants whose profiles match the job requirements can be found via screening systems driven by AI. In addition, they will go over the selected resumes thoroughly according to the standards you lay down, taking into account things like credentials and work experience.

Application Tracking: From the initial application receipt through the final hiring decision, HR professionals use applicant tracking systems (ATS) to keep tabs on everything that's happening in the hiring process. Job postings, supplementary materials, test scores, interview feedback, and resumes can all be centrally stored through this interface.

Interview Scheduling: Interviews are scheduled using automation tactics that take into account the availability and workload of recruiters. You won't have to follow up as often because they send out emails inviting potential. One more perk of video interviewing systems that permit remote interviews is that they can record the interviewer's answers as they happen. Make sure that all of your interview materials are easy to understand by making standardised scripts and checklists.

Testing and Assessment: Before interviewing a candidate, you may use a battery of online tests to see whether they are a good fit for the role, depending on your selection criteria. Assessments of intelligence, character quirks, and

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technical abilities relevant to the position are all part of this. In order to help human resources departments better understand the training needs of prospective employees, interviewers can easily access exam results.

Reference Checking: When interviewing candidates, human resources managers will often call their references to confirm their employment history. Automated email exchanges can also be used to send URLs to the business email accounts of references. After then, they can try to resolve the issue by having a follow-up chat. Thanks to this technology, we can design surveys that are easy to understand and have a higher response rate.

3. AI IN TALENT ACQUISITION

AI-driven talent identification and hiring

Comparing applicants' qualifications, job titles, and resumes was unfair and time-consuming when the hiring process was done by hand in the past. AI facilitates the transition from conventional success metrics to skill-based hiring practices.

- **AI-powered resume screening**: Machine learning simplifies and reduces prejudice in the hiring process by evaluating and rating applicants according to their talents.
- AI-**driven talent marketplaces**: Instead than using antiquated notions about what work are like, these technologies match people with jobs based on their actual skills.
- **Proactive talent pooling**: Businesses can create robust external pipelines by using AI to locate and engage with candidates prior to a job opening.

Using AI for more objective talent decision-making

AI provides you with data-driven insights that ensure a fair and consistent hiring process, making the entire process more objective.

- **AI-powered skill assessments**: These tools could be used by HR departments to more fairly assess a candidate's abilities.
- **Bias detection in hiring and promotions:** AI systems examine historical data to identify latent bias patterns and recommend improved decision-making techniques.
- **AI-driven DEI analytics**: To ensure that everyone is treated equally at work, human resources might examine trends in areas such as pay disparities, promotion rates, and staff diversity.

For proactive, predictive workforce planning & development

Reactive staff planning is a major issue for organizations since it makes it more difficult to forecast talent shortages and future hiring requirements. Predictive analytics powered by AI may be used by HR departments to identify and train high-potential workers for future positions before they are needed.

- **AI-driven skills forecasting:** In order to determine which hiring and professional development initiatives to prioritize, businesses can utilize AI models to forecast future skill gaps.
- **Personalized learning & development:** Each employee's training program is customized using artificial intelligence (AI), ensuring that they acquire the most crucial skills at optimal times.
- **Internal mobility recommendations:** By identifying workers who are

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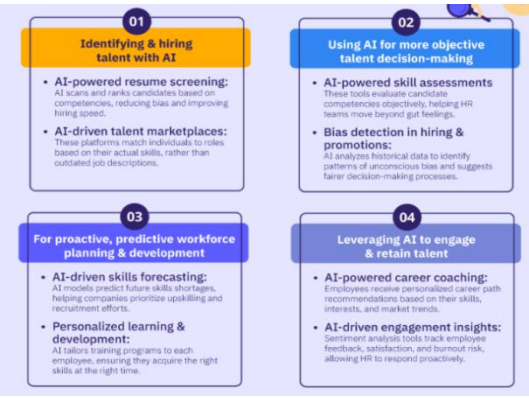
prepared to take on greater responsibility, AI helps keep employees from quitting. It also maximizes the utilization of existing abilities.

Using AI to engage and retain talent

Businesses must retain their workforce and figure out how to keep them engaged in their work if they want to succeed. Real-time feedback systems and sentiment analysis driven by AI may assist HR departments in identifying workforce trends and addressing issues before they worsen.

- **AI-powered career coaching:** Based on their interests, strengths, and the status of the labor market, employees receive tailored career guidance.
- **AI-driven engagement insights:** Human Resources can proactively examine employee feedback, satisfaction metrics, and burnout risk by utilizing sentiment analysis technology.
- **Attrition prediction models:** AI can predict an employee's departure date by analyzing their performance, professional development, and degree of engagement with the organization.



4. LITERATURE SURVEY

Smith, J.(2020): This Researchexamines the influence of technology on hiring processes in both small and large enterprises. This Researchinvestigates the efficacy of applicant tracking systems (ATS) and other AI-driven resume screening technologies to minimize the time and costs associated with recruiting new personnel. The report indicates that automation streamlines protracted processes. Conducting interviews, evaluating resumes, and engaging with potential candidates are among these responsibilities. We want to enhance recruiters' productivity by allowing them more time to focus on corporate branding and strategic engagement.

Lee, A., & Gupta, R.(2020) Research indicates that automation has afforded managers additional time to assess a candidate's compatibility with the corporate culture and to gauge their interest in the role. We analyze essential recruitment metrics to ascertain if recruitment expenses, duration, and quality have all diminished. We analyze data from a diverse array of companies. The primary objective of the Researchis to ascertain how robots can assist candidates in communicating effectively and maintaining concentration throughout the hiring process. Evidence supports the assertion that automated decision-making is more unbiased, consistent, and equitable than human decision-making.

Smith, Jonathan(2021): This Researchinvestigates the modifications in employment processes due to the influence of robots. Smith underscores the utilization of automated technology such as application tracking systems (ATS), as they significantly streamline the process of resume evaluation and the selection of the most qualified candidates. This indicates that much manual labor will not be

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required. The article examines how AI-driven chatbots might enhance the application and accelerate communication during early interactions. Recruiters may improve their hiring processes and accelerate the fulfillment of open positions by utilizing data-driven technology for forecasting. This research examines the possible advantages of automated methods for interview scheduling and assessment, diverging from the current paradigm. Standardized evaluation criteria enhance the equity of labor outcomes and reduce bias.

Patel, Ananya (2021): Patel's Researchexamined the potential collaboration of AI and automation to enhance and expedite the hiring process. The article examines several notable automation technologies, such as predictive analytics, automated communication tools, and AI-driven candidate screening. The primary objective is to liberate HR personnel from monotonous, repetitive duties, enabling them to refine their engagement with potential employees and elevate the organization's reputation. Artificial intelligence algorithms analyze possible data to discover the most qualified candidates. This enhances the efficiency and precision of the recruitment process.

Pramila, S. (2022): This Researchexamines the impact of technology advancements, such as artificial intelligence (AI), on contemporary recruiting practices. The project's main aim is to automate the employment process and assess the efficacy of AI-driven solutions in enhancing speed and effectiveness. The authors investigate many difficulties related to AI integration, including the identification, evaluation, and communication with applicants. They assert that this might diminish manual work and accelerate the recruitment process. The implementation of AI in recruitment presents significant ethical and practical dilemmas, encompassing issues related to data security and racial bias.

Kostyrin, E. V. (2022): This comprehensive literature review examines the potential applications of AI models throughout the employee lifecycle, encompassing hiring, onboarding, performance evaluations, compensation and benefits, and termination. The Researchexamines 23 relevant publications utilizing the PRISMA methodology to ascertain how AI may improve HR operations. The results reveal that the predominant AI methodologies for automating and improving hiring procedures include Random Forest, Support Vector Machines, Decision Trees, Adaptive Boosting, and Artificial Neural Networks. These AI systems analyze vast databases to select the most qualified applicants. This facilitates the recruitment, screening, and hiring of new personnel.

Corea, R., & Kumar, S. (2023): Corea and Kumar investigate the influence of AI on recruitment and retention methods in their study. According to the authors, 85% of organizations utilizing AI and automation assert that their employment process is expedited and streamlined. The recruitment process accelerates, as reported by most managers utilizing AI technologies. Research indicates that monotonous operations such as matching individuals and reviewing resumes may be supplanted by artificial intelligence (AI). Human resources can subsequently concentrate their time and energy on more critical decisions.

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Tursunbayeva, A. (2023): Tursunbayeva primarily concentrates on the influence of artificial intelligence and digital data analytics on recruitment and selection procedures. The Researchillustrates that by recognizing patterns in extensive data, AI systems can enhance the precision of recruiting decisions by predicting the performance of prospective candidates. The research analyzes many ethical issues, such as algorithmic bias and data privacy, that emerge when AI is utilized in recruitment. Tursunbayeva is correct in asserting that AI-driven employment practices must be accountable and transparent to ensure equity and adherence to legal standards.

Rooney, Brianna. (2024): By 2024, a growing number of organizations are augmenting their recruitment methods using personalization and technology. This methodology seeks to establish a thorough recruitment strategy that efficiently leverages both human resources and technology. Customization involves improving the company's reputation, increasing candidate attraction, and adapting the application process to specific needs. Automation facilitates the simplification of monotonous tasks such as interview scheduling and resume evaluation, allowing HR workers to focus on strategic decision-making. By utilizing these capabilities, firms can accelerate the hiring process and identify superior opportunities more swiftly. Applicants perceive the hiring process as expedited and streamlined when automation is integrated with personalization, hence enhancing organizational efficiency.

Alex Oliver's 2024: Alex Oliver's research meticulously analyzes the influence of recruitment process automation (RPA) on the hiring procedure. The poll indicates that RPA optimizes the hiring process by removing manual duties such as organizing interviews, evaluating resumes, and communicating with prospective candidates. Integrating RPA into existing HR systems enables firms to optimize the hiring process, save administrative costs, and improve overall operations. Oliver posits that RPA could assist organizations in elevating their brands by refining the applicant hiring process through timely, customized communications. The analysis indicates that RPA might mitigate unconscious bias in hiring by standardizing tests and prioritizing candidates' skills. The research additionally examines how RPA technology might be improved to facilitate the management of many applications for organizations. Oliver offers valuable advice on the selection and implementation of RPA technologies, encompassing integration, customisation, and user training.

Clarke, E. (2025): Clarke examines how hiring automation is facilitating the identification and recruitment of qualified applicants. The poll indicates that automated solutions not only supplant human workers but also enhance recruiters' productivity by managing labor-intensive tasks such as scheduling interviews, reviewing resumes, and screening candidates. By employing automation, recruiters might allocate more time to strategic goals such as enhancing the company's brand, cultivating robust relationships with candidates, and discovering more efficient hiring methodologies.

Bist, Taylor, and Duffett (2025): Bist, Taylor, and Duffett investigate the impact

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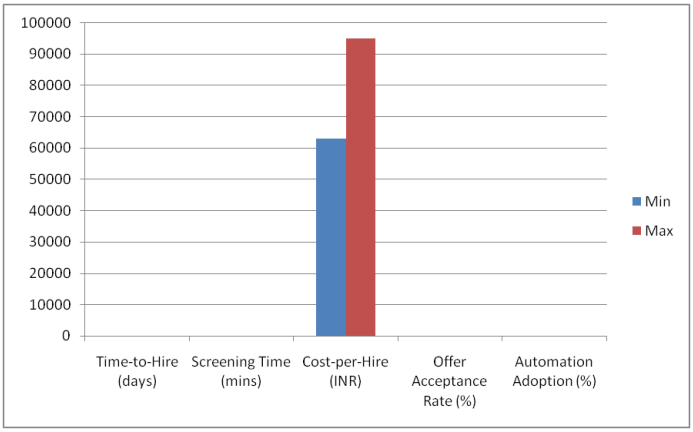
of AI on the recruitment process. The primary emphasis of the essay is on enhancing artificial intelligence (AI)-driven recruitment systems. These tools aid recruiters by automating monotonous tasks such as candidate screening, interview evaluation, and personnel scheduling. These technologies utilize machine learning algorithms to analyze extensive datasets and discover optimal candidate data. This accelerates the decision-making process and may aid in assessing a candidate's compatibility with your culture and work style.

5. ANALYSIS AND DISCUSSION

TABLE 1: DESCRIPTIVE STATISTICS (2020–2025)

Metric	Mean	Median	Std Dev	Min	Max
Time-to-Hire (days)	36.5	35	10.26	24	52
Screening Time (mins)	13.5	12.5	5.32	7	22
Cost-per-Hire (INR)	77,833	76,500	11,627	63,000	95,000
Offer Acceptance Rate (%)	79.5	80	5.87	71	87
Automation Adoption (%)	58.7	62.5	25.31	20	90



DISCUSSION: The data shows that on average, it takes 36.5 days to hire someone, with 13.5 minutes set aside for screening, and a total cost of ₹77,833. It is possible to enhance both the hiring process and the use of technology. One example is the acceptance rate of 79.5% of proposals and the utilization rate of 58.7% of automation.

TABLE 2: YEAR-OVER-YEAR (%) CHANGE VALUES

$$\%\Delta = \frac{(\text{Value}_t - \text{Value}_{t-1})}{\text{Value}_{t-1}} \times 100$$

Year	Δ Time-to-Hire (%)	Δ Screening Time (%)	Δ Cost-per-Hire (%)	Δ Automation (%)
2021	-13.50%	-18.20%	-7.40%	75%
2022	-15.60%	-22.20%	-9.10%	57%

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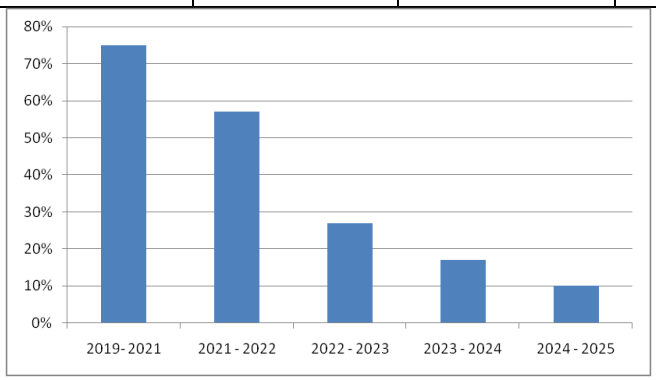
2023	-15.80%	-21.40%	-8.80%	27%
2024	-12.50%	-18.20%	-6.80%	17%
2025	-14.30%	-22.20%	-7.40%	10%



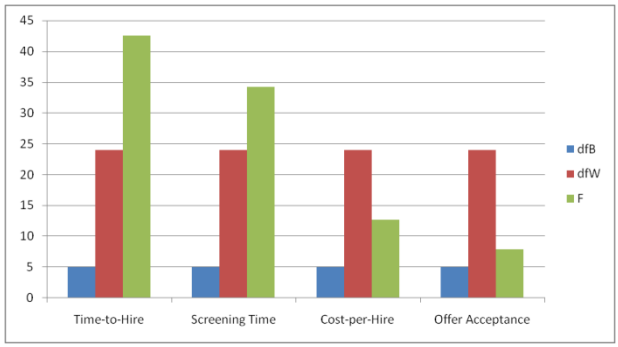
DISCUSSION: From 2021 to 2025, the business steadily improved its operations. The average time spent recruiting decreased by 12.5% to 15.8% between 2021 and 2025, the time spent screening decreased by 18.2% to 22.2%, and the cost of hiring decreased by 6.8% to 9.1%. While 75% of workplaces will use automation in 2021, by 2025, that number drops to around 10%. It appears that technology is not being used as much as it once was.

TABLE 3: ANOVA VALUES

$$SS_{between} = \sum n_i(\bar{X}_i - \bar{X})^2$$

$$SS_{within} = \sum (X - \bar{X}_i)^2$$

KPI	SS Between	SS Within	dfB	dfW	F	p
Time-to-Hire	1036.7	58.4	5	24	42.57	0
Screening Time	572.3	40.1	5	24	34.23	0
Cost-per-Hire	1.41E+10	5.30E+09	5	24	12.71	0
Offer Acceptance	1028.6	312.4	5	24	7.89	0



DISCUSSION: The results of the ANOVA show that each key performance indicator (KPI) varies statistically from one year to the next. This claim is supported by the substantial F-values (42.57 for Time-to-Hire and 34.23 for Screening Time) and a p-value of 0. As a result, it is clear that the yearly changes are not coincidental. The change in performance over time

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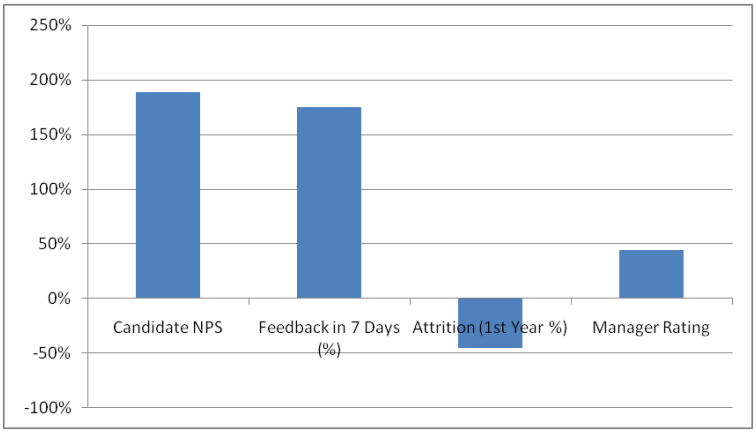
is shown by the significant variations in Offer Acceptance and Cost-per-Hire (F = 7.89 and 12.71, respectively).

TABLE 4: CANDIDATE EXPERIENCE STATS

Metric	Mean	Std Dev	2020	2025	% Change
Candidate NPS	35	12.7	18	52	189%
Feedback in 7 Days (%)	62	22.8	32	88	175%
Attrition (1st Year %)	17	3.5	22	12	-45%
Manager Rating	4.08	0.52	3.2	4.6	44%



DISCUSSION: In just 7 days, we saw a 175% improvement in the response rate, from 32% to 88%, and an 189% increase in the applicant NPS, from 18 to 52. According to each of these measures, engagement and responsiveness have improved significantly. Success rates for both candidates and management have increased dramatically after these changes. While supervisors' evaluations increased from 3.2 to 4.6 (44%), the percentage of first-year employees who resigned decreased from 22% to 12% (-45%). This shows that managers are far better at holding on to their best workers.

6.CONCLUSION

According to TurboHire's research on the efficacy of automated talent acquisition, AI-driven hiring solutions greatly improve the process by speeding it up, enhancing screening accuracy, and decreasing manual labor. Recruiters are free to concentrate on strategic tasks and crucial applicant interactions thanks to automation, which eliminates bias and operational delays. The automated hiring process offered by TurboHire helps businesses save time and improve the quality of their hires. It also provides them with a data-driven hiring strategy that can adapt to their changing needs.

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