

AI AND AUTOMATION IN RECRUITMENT AND SELECTION

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Abstract:

Artificial Intelligence and automation are increasingly being used in the fields of recruitment and selection, as they enhance efficiency, accuracy, and effectiveness in human resource management. Some of the AI techniques being used in organizations to scan applicants, automate mundane work, as well as improve the overall quality of recruitment, include machine learning algorithms, chatbots, or predictive analytics. Though they provide a number of advantages, issues of data privacy, transparency, or a lack of human intuition are being considered important in such human resource practices.

Keywords: Artificial Intelligence (AI), Automation Talent Acquisition, Recruitment Technology, Applicant Tracking System (ATS), Candidate Screening, Natural Language Processing (NLP), Predictive Analytics

1. INTRODUCTION

Technology is one of the main driving forces that have contributed significantly towards the change in organizations, thereby impacting the area of Human Resource Management. In the current technological age, Artificial Intelligence, coupled with Automation, is the powerful tool that is revolutionizing the traditional approach in the matter of recruitment and selection. Two of the most important activities of the department of human resources in an organization are recruitment and selection, which impact the quality of the human resource capital.

Technologies in use here include data analytics and statistics from the candidates, machine learning and predictions for the best fit based on the position required. It takes seconds to review thousands of resumes, and in some cases, predicts performance in the position in the future. Automation of routine processes related to organizing interviews in advance, sending emails, and finally on boarding. These technologies, put together, have changed how organizations acquire, evaluate, and on The integration of AI and automation improves not only operational efficiency but also board talent. boosts the candidate experience by recruiting faster, more transparent, and unbiased. RPA minimizes human interaction in most tasks, which gives HR professionals time to involve themselves in more relationship-driven activities like engagement, retention, and other HR areas, such as

Organizational Culture. The AI tools also assist in reducing unconscious biases, thus enhancing diversity and inclusion in the recruitment process.

Notwithstanding these advantages, there are additional challenges posed by the use of AI and automation technology, including data and privacy concerns, significant implementation costs, and the potential for bias, should the design and/or oversight not be optimal. AI and automation technology will be the future of recruitment and selection, and will inject efficiencies, accuracies, and innovations into HR practices. In fact, with an increasing focus on an overall digital transformation, the use of intelligent and automated technology will play an integral role in building a competent, diverse, and competitive

2. OBJECTIVES OF THE STUDY

1. To explore how Artificial Intelligence and automation are involved in reformulating the conventional selection processes.
2. Analyze the efficiency and effectiveness of AI tools in recruitment processes to screen potential candidates.
3. To evaluate if AI and automation can result in reducing human bias in the hiring process.
4. Identifying the challenges and limitations that organizations face in undertaking the use of AI-driven recruitment tools.
5. To understand the perceptions HR and recruitment experts have about the application of AI and automation in talent attraction.

3. REVIEW OF LITERATURE

1. Baieşu, M. (2024). The recruitment and selection process in the digital age. Scientific Collection «InterConf», (199), If companies are to remain competitive in the market, they have to transform the hiring process through use of technology. AI and information technology solutions in hiring enhance efficiency in this process by removing bias, simplifying processes, and increasing their speed. Systems like applicant tracking and recruitment chatbots can enhance hiring to make companies more competitive.

2. Meshram, R. (2023). The role of artificial intelligence (AI) in recruitment and selection of employees in the organisation. *Russian Law Journal*, 11(9S), 322-333. Artificial Intelligence (AI) is transforming the way of living, working, and recruiting. AI assists HR departments in filtering a massive amount of data to assess potential employees quickly. This reduces the recruitment time of employees, increasing the productivity of the company. According to a study carried out by the Sage Group, 24% of companies utilize AI recruitment, while over half intend to implement AI recruitment in the future. One thing is apparent, though – the increasing use of AI will alter the future of the recruitment market. According to the World Economic Forum, there will be a potential loss of 75 million jobs but the emergence of a further 133 million jobs. This trend will make the task of the HR departments challenging, dealing with employee changes.

3. Talwar, R., & Agarwal, P. (2022). Effectiveness of AI tools with respect to Recruitment and Selection Process. *Global Journal of Enterprise Information System*, 14(4), 15-24. In this study, the topic of investigation is the impact of artificial intelligence (AI) in the recruitment and selection phase. Currently, artificial intelligence is contributing to the communication revolution of job seekers and employers, especially in the initial phase of recruitment. Even though little research exists in this field, the perception of the personnel department is that artificial intelligence will revolutionize the recruitment phase.

4. Hemalatha, A., Kumari, P. B., Nawaz, N., & Gajenderan, V. (2021, March). Impact of artificial intelligence on recruitment and selection of information technology companies. In *2021 international conference on artificial intelligence and smart systems (ICAIS)* (pp. 60-66). IEEE. Artificial Intelligence (AI) is paradigm-shifting in the field of businesses, including Human Resource Management, specifically in the areas of recruitment and selection. AI has several capabilities, including Natural Language Processing, Machine Vision, Automation, and Augmentation. The report reveals the effects of these capabilities on the above-mentioned topics, concluded from the survey conducted among 141 IT professionals in the city of Chennai, using the secondary source of data, in the form of the following findings: AI has introduced significant changes in the process of recruitment

5. Jha, S. K., Jha, S., & Gupta, M. K. (2020, March). Leveraging artificial intelligence for effective recruitment and selection processes. In *International Conference on Communication, Computing and Electronics Systems: Proceedings of ICCCES 2019* (pp. 287-293). Singapore: Springer Singapore. Artificial Intelligence has brought about significant changes to the management of the global market with the automation of functions and improving efficiency. Additionally, in the aspect of recruitment and selection, Artificial Intelligence has become

indispensable since most organizations today use AI-enabled tools to manage the recruitment function. This paper will discuss the impact that Artificial Intelligence is creating in reshaping the traditional recruitment process.

4. FUNCTIONS OF AI AND AUTOMATION IN RECRUITMENT AND SELECTION

Recruitment Advertisement and Sourcing of Candidates

- The job is automatically advertised using AI tools on various platforms.

LinkedIn and Indeed.

- They employ algorithms that are capable of recognizing and attracting potential employees matching certain job qualifications.

Resume Screening & ShortListing

- Computerized systems browse and scrutinize CVs based on keywords, experience, and qualifications.
- Also helps in short-listing the candidates suited for the post in the shortest possible time, thereby saving time for the HR personnel.

Candidate Matching

- The AI system matches candidate profiles with job descriptions for optimal results.
- It takes into account skills, experience, and even cultural fit using predictivecs.

Communication Chatbots

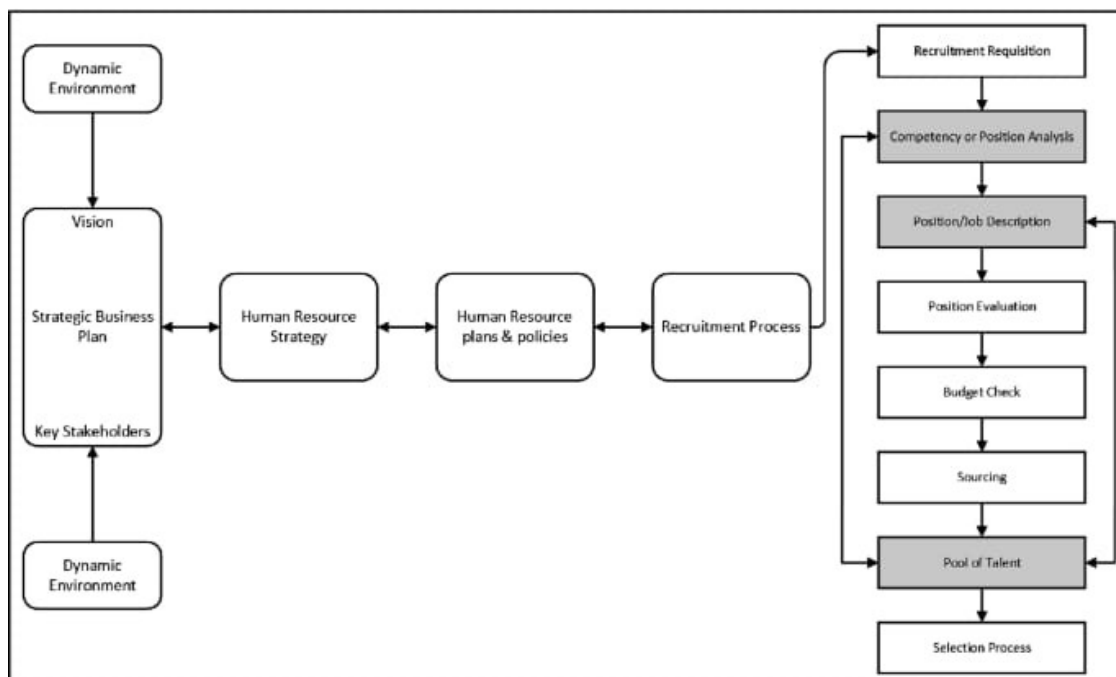
The AI chatbots respond to candidate queries, fix interview slots, and update the interview status.

- This better enhances candidate experience and lessens the workload for HR personnel.

Scheduling of Interviews and Assessment

Automation tools schedule interviews based on availability and time zones.

Video or online tests are carried out to gauge a candidate's competency, language, and even emotional intelligence using AI-based assessments.



5. IMPACT OF RECRUITMENT AND IMPACT OF AI AND AUTOMATION IN SELECTION

These visual illustrations of AI, automation, and recruitment, selection, are more focused on the streamlining that has happened within the recruitment and selection process. These infographics, diagrams, and illustrations convey information on the main activities.

Typical forms of imagery are:

Flowchart/Process

Examples of the conventional manual recruiting "funnel," which involves sourcing, screening, interviewing, and hiring, being replaced or supplemented by a considerably quicker linear and automated workflow.

Icons & Digital Interfaces,

Graphics Icons dealing with the realm of HR tasks take the example of resume, candidate profile, calendar, data analytics, the global network, all integrated in a single interface or the virtual screen that is currently being operated by a human or an AI avatar.

Human-AI Partnership

The use of pictures of the human recruiter partner working together with the AI, often represented by the robot icon, virtual assistant, or dynamic interface, depicts the AI being the "assistant" or "enabler" rather than the decision-maker in the more complex areas such as cultural fit.

Conceptual Robots versus Humanoids:

Concept or cartoon pictures, frequently featuring a 'flesh-and-blood' candidate sitting alongside a modern AI robot in a waiting room, to illustrate the shift in competition in job recruitment or task automation.

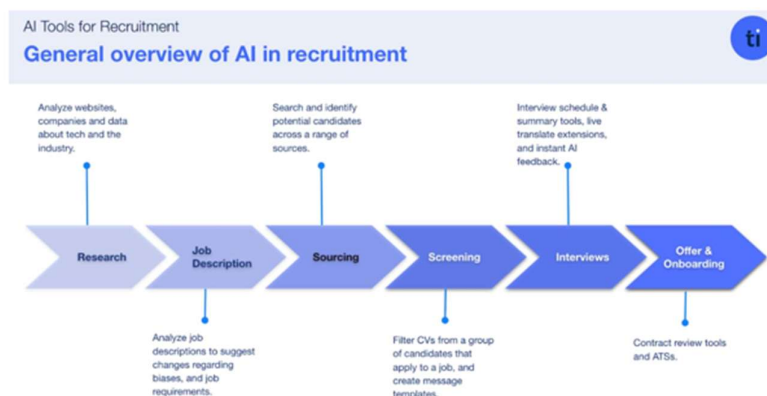
Data & Analytics Visuals:

Infographics/Visuals showing the use of data-driven decision-making tools, such as the use of graphs, charts, and key data points to convey the insights derived from the AI analysis of the candidate, his/her performance, and market trends.

Specific AI Tool Visuals:

Screenshots or conceptual artwork showing different AI solutions available to employers, including candidate engagement tools such as chatbots, video interview platforms with analytics capability, including icons for voice/facial recognition technology, and resume screening software.

These graphics attempt to articulate why there are benefits in AI.



6. APPLICATIONS OF AI AND AUTOMATION

Resume Screening

- AI scans thousands of applications and shortlists the most relevant candidates.

AI Chabot

- Interact with applicants, automatically sharing information and gathering data.

Predictive Analytics:

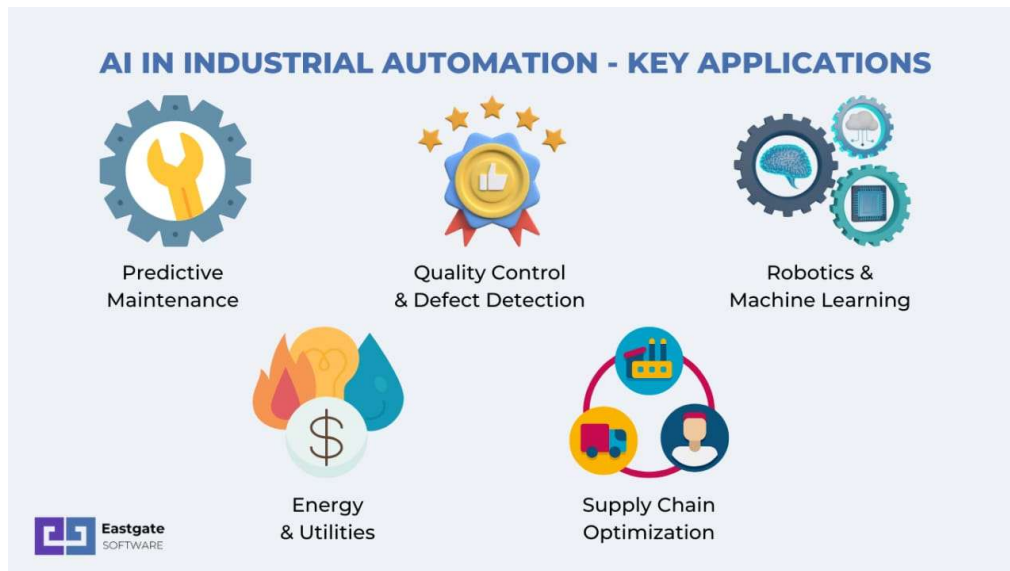
- AI predicts candidate performance and retention potential.

Video Interviewing Tools:

- AI scans tone, language, and even facial expressions to make behaviour and confidence assessments.

Automated Scheduling:

Automation tools schedule interviews and send reminders automatically, with no human input.



7. ROLE OF AI AND AUTOMATION IN RECRUITMENT AND SELECTION

1. Resume Screening and Shortlisting

AI systems scan and filter out several thousand resumes within a few seconds of time automatically. They look for matching keywords, experience, and qualifications against the job descriptions. This decreases human workload and guarantees that only qualified candidates move forward with the hiring process.

2. Candidate Sourcing

AI tools search through job portals, professional networks, and databases to look for possible candidates matching specific roles. It allows the organization to reach a wider and more suitable talent pool.

3. Candidate Engagement via Chatbots

Artificially intelligent chatbots communicate with applicants round the clock, clear all kinds of queries, collect information, and even fix interview dates, hence improving communication and providing a good candidate experience.

4. Predictive Analytics and Decision-Making

Predictive models are used by AI. These predict the performance or tenure of candidates by analyzing the previous hiring history and data. The result is that this allows the human resources manager to make more accurate and databased decisions while hiring.

5. Interview Preparation and Evaluation

Automation tools help in conducting online interviews, sending automatic invitations, and analyzing the candidate's response, both verbal and non-verbal, through AI; some even go as far as to assess emotional tone, confidence, and communication skills.

8. ADVANTAGES OS AI AND AUTOMATION AND RECRUITMENT AND SELECTION

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9. DISADVANTAGES OF AI AND AUTOMATION IN RECRUITMENT AND SELECTION

Lack of Human Judgment

In the absence Key skills such as teamwork, creativity, and attitude can be neglected.

Algorithmic Bias

"If the training dataset of the AI system is biased, then the system may end up discriminating indirectly on the grounds of gender, race, and sometimes even age."

Such aspects lead to imbalanced hiring practices.

Cost of Implementation

The main disadvantage of Small and medium-scale businesses can find this cost-prohibitive.

Data Privacy Concerns

The AI systems accrue massive amounts of candidate data.

Lack of proper processing of this information may result in privacy violations and resulting breaches.

This reliance on automation may limit the level of identification between the employer and the applicant.

Errors and System Limitations*

It can also reject qualified applicants because of keyword mismatches or insufficient information.

There can be some technical hiccups in the selection procedure.

10. CONCLUSION

AI and automation have significantly altered the process of personnel recruitment and selection by ensuring faster, more accurate, and fairer methods of selection. These technologies make it possible for the organization to sort through an enormous number of applications quickly and skip to the best candidates. The use of automated tools such as resume screeners, bots, and predictive analytics tools accelerates all steps of the process from sourcing to the final selection process. So, even with the benefit of faster and fairer selection and processing of applications through AI and automation tools, some challenges to their success exist. These challenges come about because of ethics and overdependency on technology at the expense of human intuition and emotional intelligence. In closing, therefore, it can be concluded that the combination of AI and automation tools can be an effective recruitment process facilitator but not at the expense of effective implementation.

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