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## A conceptual study on the role of artificial intelligence in recruitment

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### Abstract

This conceptual paper was prepared based on literature reviews. The literature aided in understanding artificial intelligence and the way it integrates into a recruitment strategy. To draft the entire article, secondary sources like sites, magazines, reports, publications by experts, and manuals are examined. This paper also discusses the newly formed recruitment process with the influence of AI. To remain competitive in this digital era, there is a need for highly talented employees with high potential. So, if an organization utilizes an efficient recruitment strategy, it can employ better individuals who can manage this digital world. Every firm heavily relies on its recruitment strategy to locate finding applicants who can perform effectively their duties, data analysis could be employed to assist this recruitment technique. Data is referred to as "Artificial Intelligence," and it's essential to a company's recruiting process. AI can operate and mimic humans, and its main objective is to allow machines to carry out human-like tasks.

**Keywords:** Automation, artificial intelligence, recruitment, information technology, hiring

### Introduction

Artificial intelligence (AI), is a term used for machines, systems and computers and is introduced by John McCarthy (1956) <sup>[27]</sup> seems to be a buzzword primarily used in the boardrooms of every large-sized and small-sized company around the world. He suggested that artificial intelligence will definitely contribute in the future through different fields like biology, engineering, psychology, linguistics, and various interdisciplinary programs. Nowadays AI is dominating the lives of many people and has also been implemented in various companies it can cover almost every aspect of lives in ten to twenty years. AI is one of the rapidly developing computer science technologies. Using intelligent machines, it will bring about a brand-new revolution in the world. AI is important in making the process of reducing time-consuming and repetitive tasks. Numerous tracking systems used in AI-based Human resource tools can run algorithms and are very beneficial in reducing the amount of HR acquisition and management tasks, and a number of job networking websites can analyze candidates' presence online on social media platforms and predict how they'll recognize the various roles offered to them.

AI is increasing fast, according to previous studies, and companies are no longer ignoring its potential. Businesses in India from a plethora of industries, like banking, retail, healthcare, education, and transport, are increasingly integrating artificial intelligence (AI) to revolutionize their operations. According to research by Serafini from 2002, business model innovation will be aided by artificial intelligence in a wide range of industries including energy, financial services, and others. These days, artificial intelligence is penetrating every industry.

### Literature review

In 1956, the father of AI, John McCarthy, created the term "artificial intelligence." AI has been defined as "the science and engineering of creating machine intelligence, smart software systems" (McCarthy and Minsky, 1950). Although there appears to be agreement on its potential, AI's real usage and benefits to boost recruitment seem to be in conflict. If AI utilizes human-based decision-making from facts it scans, this will tend to highlight these traits and repeat previous decisions.

When adopting AI-based recruitment methods, human judgment should be considered. (Dessler, 2020) <sup>[28]</sup>

AI enables companies to save time and money (Vijay Sundaram, 2018); (Jones, 2018); enhance recruiter's hard and soft abilities (Luiza Sayfullina, 2018); increase task efficiency and speed; and foster relationships among recruiters and candidates (Niehueser and Boak, 2020) <sup>[29]</sup>. (2018) (Othamar Gama Filho) Riley Griffin and Rebecca Greenfield (2018)

HR professionals may initially be concerned about the impact of artificial intelligence on their work, as highlighted by Jonathan Kestenbaum (2016), executive director of Talent Tech Labs, a talent-acquisition software firm in New York. However, when AI software is deployed, it can quickly eliminate all daily routine tasks and reduce data management time to act as an ongoing issue solver for HR.

When looking for a job, artificial intelligence and machine learning are commonly used. It will dramatically reduce both the industry's and the candidate's time and expenses. Senior vice president of Indeed.com Raj Mukherjee says that 65% of job applicants make a new application within 91 days of receiving an offer of employment. Indeed.com operates in over 50 countries and has 200 million monthly users.

Jarrah (2018) <sup>[3]</sup> discussed the significance of artificial intelligence in people in his study article, *Artificial Intelligence and the Future of Work*, and concluded that it is beneficial, especially in circumstances when there are ambiguities. He pointed out that in this kind of industry, technology must depend on individuals to make decisions that are made subconsciously and also to evaluate the consequences of all of those decisions.

### **Artificial Intelligence for Recruitment: A Conceptual Study, (R&D, 2018)**

The researcher emphasized artificial intelligence's important role in the hiring process, including candidate screening, employee relations, and interview scheduling.

#### **Objectives**

- To identify the challenges of applying AI in recruiting
- To study the impact of AI in various occupations
- To assess whether COVID 19 influenced the need for AI in recruiting
- To identify whether AI would change the role of the recruiter

#### **Need/ Relevance**

In recent years with the emergence of automated recruiting hiring new employees in an organization is much easier. Automated recruiting will improve the recruiter's productivity and enhance the candidate experience. Machine learning can help the recruiting process in numerous ways, from reducing sourcing costs to increasing the effectiveness of a hire. If a bad hire occurs in an organization, the cost of it can harm the business and have an impact on the recruiter who is responsible for it. It is crucial for the recruiter to be effective in order to guarantee that the organization is making quality employees. Any firm can save hiring duration for recruiters by using automated recruiting.

**Research Methodology:** "This is a conceptual study based on different reviews from large databases. The research is done using a descriptive research design. The reviews

helped millions of people comprehend the concept of machine learning and understand how it impacts recruitment. For the purpose of writing the entire paper, secondary sources like websites, magazines, publications, scholarly journals, and manuals are examined. Library-based databases such as Scopus, ProQuest, Science Direct, Emerald, Elsevier Taylor, and Springer and Wiley are also utilized for conducting this study.

### **Challenges of Applying AI in Recruiting**

Because of the integration of artificial intelligence into the human resource department, necessary skills and expertise for employees are now required. This can be difficult for people for using AI tools, learn skills, and be educated about the era of online technologies (Jain S., 2017). Any firm's human resource is its most valuable asset, and integrating the AI system, may have an impact on management levels and enhances employee confidence. Finding the ideal individual to handle AI tools is a challenging task for companies, and the HR department can find it challenging as well. Another limitation and difficulty are that even the HR department will be unable to make decisions on a regular basis as technology has exceeded the power and role of HR in making decisions in an organization.

When implementing AI recruiting tools, HR teams should be aware of the main issues – and develop actions to solve them

### **Gathering data for the system**

The basis of successful AI is data. Because the data quality flowing into an AI-powered human experience platform impacts its effectiveness, choosing the right system is essential. Companies should engage with a technology provider whose network is fed by a wide network of recruiters, applicants, workers, and job descriptions or which offers the volume of data needed for effective AI. To achieve its objectives a platform with integrated AI must encourage assessing client satisfaction.

### **Bias reduction**

Considering that bias control is a benefit of AI, this could appear contradictory that it is also viewed as a challenge. An AI-powered system can, in fact, acquire any human bias detected during the recruiting process or incorporated into the system through the training phase. For example, the program could choose applicants based on academic qualifications or geographic location. Top organizations avoid bias errors during the hiring process by implementing comprehensive bias detection systems.

### **Securing buy-in**

Asking people to change, even if technology would certainly make the work easier, is extremely problematic. Recruiters could be reluctant to accept AI if they really are worried about their jobs becoming mechanized, so it is important to emphasize that their roles will require human contact and human-based decisions.

### **AI's impact on Different Occupations**

AI makes it feasible for human resource specialists to perform more efficiently. A number of things, including the hiring and onboarding process, have been greatly affected by this AI: One of the most essential AI in HR roles is talent sourcing. AI assists Teams by letting them review and

evaluate numerous applications in order to choose the best ones. By utilizing AI, the organization saves a considerable amount of time and is, therefore, able to select the best person for the job by examining aspects such as values, expertise, knowledge, and so on. Because each recently recruited employee has different learning tastes, customization or personalization of employee training/coaching is accomplished by analyzing employee behavior, and this is regarded as one of the influences of AI.

### **Employee retention and continuing employee satisfaction**

Since retaining employees is such a challenging task, AI aids employees in emphasizing individual employee achievement, work-life balance, and attempting to form connections with clients inside the firm, regardless of the benefits provided.

### **Prediction**

Forecasting future turnover is critical. AI must use historical data to forecast the future with more efficiency than ever before. The collected data could be used to advise the organization on future developments.

### **Future impact of AI on various occupations**

#### **1. Education (Kristin Houser, 2017)**

According to the United Nations Educational, Scientific, and Cultural Organization, artificial intelligence (AI) plays a vital role in education; with AI's support, students will learn differently. Because many students do not attend lectures, digital instructors can use artificial intelligence to encourage pupils to learn.

#### **2. Drivers (Vihal Marria, 2019)**

By the mid-2020s, artificial intelligence will completely replace humans, using a different algorithm for traffic monitoring and preventing accidents and risks. Although driverless vehicles exist now, they will appear and change by 30% within the next three decades.

#### **3. Blue-collar and white-collar jobs (Clalum McClelland, 2018)**

By 2030, white- and blue-collar jobs will have been eliminated, contributing to more than 30percent of all professions and replacing 800 million people.

#### **4. Doctors (Vinod Khosla, Silicon Valley investor)**

He believes that by 2035, technology may have replaced doctors and that deep learning (AI) would replace half of all professions in the next generation. He even claims that in long term, healthcare businesses, not medical professionals, will replace 80% of the total doctors.

#### **5. Attorneys (McKinley's Global Institute)**

Legal results can be predicted more accurately by AI than by humans. Artificial intelligence and machine intelligence are definitely growing, and by 2036, one lakh judicial proceedings will be automated, decreasing the role of lawyers and the way things are carried out. According to the McKinsey Global Institute, the computerization of 23 percent of jobs may occur in the future.

### **Jobs that cannot be replaced by AI in the future**

Jobs having a high degree of human interaction, strategic interpretation, critical decision making, specialized talents, or subject matter expertise would not be mechanized anytime soon. "Lawyers, leaders, medical professionals, health providers, IT and HR experts are just a few categories. We can automate almost every aspect of the contractual workflow process, but we will still rely on human intervention to put arguments, establish social relationships during the negotiation phase, and uncover nuances in the data, rather than relying solely on data and algorithms.

### **Human Resource, Customer relationship management:**

While Alexa and Siri are excellent at obeying your every instruction, they never understand how you feel. Only the most modern technology will not be able to understand and respond to our feelings in the same way that a human can. Whether it's a leader of the team helping employees during a tough period, account managers assisting clients, or hiring managers looking for the ideal candidate, empathy is needed to get the job done.

### **Creativity**

Most intelligent computers or robots never paint like Picasso or create music like Mozart. Nobody understands why some individuals are much more creative than others. So it's safe to say that computers will not be able to replicate the flame of creativity that has led to the world's most amazing things.

"Automation is designed and cannot imitate spontaneous creativity, which requires imagination, dreaming, and collective inspiration - something humans thrive at."

### **Role of COVID-19 on the Need for AI in Recruiting**

The influence of COVID-19 on the job market has been a popular issue both for job seekers and employers. The world economy suffered largely as a result of recruitment and selection process delays and cancellations. Experts believe that we are on the brink of a crisis. Nevertheless, it seems that people have started to tolerate it. The world has evolved over time, and we've all accepted that COVID-19 will be here to remain. Companies have gone remote, but there seems to be some hope.

Artificial intelligence will increasingly be used in hiring and recruiting decisions, especially in light of Covid-19 social distancing mandates. Whether employers are operating regularly, telecommuting, or preparing for the future, the Covid-19 experience could lead people to switch to the emergence of workplace artificial intelligence (AI) tools that can help optimize recruiting and hiring so they can maintain the best practices in social distancing. The COVID-19 pandemic generated growing interest in how AI can help recruiting teams work more effectively and successfully - despite scarce resources.

### **The pandemic also created additional challenges to the workplace**

- Methods of virtual recruiting
- Decreased recruitment teams
- Increased hiring standards
- Constantly shifting employee and candidate views of the type of organization they want to work within

As organizations consider talent recovery, HR and recruiting leaders realize that investment in AI-driven digital solutions will be essential to staying competitive and attracting highly desirable talent. The employment of artificial intelligence (AI) technology in online interactions has become common (Willson, 2017) <sup>[31]</sup>, a trend accelerated by the Covid-19 epidemic (Laberge *et al.*, 2020) <sup>[32]</sup>. AI may be seen by Web users when they get personalized suggestions while using digital shopping and entertainment sites (Fry, 2018) <sup>[33]</sup>. It is also used to enhance interactions between people, such as voice-controlled virtual assistants (Flstad & Brandtzaeg, 2017). Because the technology aims to mimic human interactions, users may find it extremely difficult to identify when they are engaging with an AI system or understand how it is designed to perform complex tasks that humans perform easily (Gran *et al.*, 2020) <sup>[36]</sup>.

### **Change in the role of AI as a recruiter**

Despite all fear that computers would displace people on the job, AI will be here to help. Nevertheless, the future of AI in recruiting is best expressed as a human-centered method that uses AI to improve the performance of employees. AI serves as the essential assistant you can't live without, never remembering what it's "told." Basically, AI and automation allow recruiters to evolve. AI can help recruiters in making effective timely decisions and relieving them from routine and logistical tasks. With more time and better insights, the advanced recruiter would be able to:

#### **Take greater initiative**

Rather than simply filling job vacancies, AI would provide recruiters with data insights and enough time to employ strategic hiring practices.

#### **Emphasis on relationship building.**

Recruiters can spend more time to best-fit candidates now they have extra time in their day. moving beyond a CV to identify culture fit and opportunities, which improves the candidate's experience

#### **Enhance cooperation with hiring managers.**

Recruiters use AI-driven visuals to teach hiring managers about results such as the quality of hires.

As per Chui *et al.* (2015) <sup>[36]</sup>, In the coming years, even well-paid professions such as investment bankers, doctors, and company leaders will be susceptible to AI domination. Khosla *et al.* (2016) carried out a study in which they employed a social robot to conduct interviews while observing minor changes in their facial gestures and noises. The robot analyzed candidates' cognitive and emotional behavior through verbal and nonverbal messages to assist in decision-making and then compared the results to the mental and dynamic profiles of current employees of the organization. AI will undertake time-consuming activities, including sourcing, screening, and interview schedule in order to free up the recruiter and human resource managers to concentrate more on strategic initiatives. Chatbots are intelligent technologies that automate time-consuming processes such as screening and evaluation. Chatbots are artificially intelligent (AI) devices that engage with candidates via text or voice (Akash & Anusha, 2018) <sup>[2]</sup>. After submission of the application and analysis by the bot, real-time communication will start with a screening interview, various assessment tests, and user inquiries.

Face-to-face interviews with candidates now include the incorporation of artificial intelligence in the selection and hiring process. This involvement started with detecting and understanding human attributes through analysis of facial gestures to recover feelings at the time of the conversation (Boz & Kose, 2018) <sup>[35]</sup>. According to recent findings, sophisticated AI technologies will replace routine administrative jobs, enabling recruiters and managers of human resources to concentrate more on critical activities. AI applications will make it easier to find talent, boosting competitiveness and placing additional pressure on organizations and Human resource professionals to adjust and integrate AI into their recruitment practices.

### **Practical implications**

This research provides strategic insights on recruiting automation as well as practical ideas for incorporating AI into the recruiting sector. It also examines the strategic implications of AI application in the recruitment industry. In the current scenario, Artificial intelligence is practically implemented in various areas of recruiting. One of the best examples is Mya – an Artificially Intelligent Recruiter a very popular recruitment assistant chat bot developed by Mya systems. This can automate almost 75% of the recruitment process and can communicate with the candidates by means of different apps like Facebook, Skype, and Email can immediately provide feedback to the applicants. In turn, candidates can also communicate by asking questions related to the culture of the company and its hiring processes. This is a huge step toward solving real-time business problems such as recruitment. Mya also works at various levels like sourcing the CV, screening them, and scheduling them for the interview

### **Research Implications**

Economic research has shown that there is a need to safeguard human resources, especially recruitment, in light of the impact of artificial intelligence, as well as the important effect on the infrastructure and job patterns that enable the digitalization of human resources. Human resource specialists should be fully prepared to assist with this change, or they may face a risk gap. This study will identify the impact of AI on particular job profiles as well as the recruitment effectiveness including cost, time, and so on impact artificial intelligence and various perspectives are looked into on the basis of this topic. After doing the different reviews about this topic it is clear that AI technology can take care of from the sourcing of the candidate to the interviewing and can drastically reduce the recruiting timeline. That could in turn allow the talent acquisition team to engage with the prospective candidates and can determine their ability to perform different roles inevitably. Employees will be affected by machine learning in a variety of ways, and consequently, it is important to prioritize their needs. Artificial intelligence will help human resource professionals reduce time on administrative tasks and HR operations.

### **Further Research**

In this age of digitalization, a competitive edge can be acquired only through recruiting the top talented people into the organization. Artificial intelligence can reduce the time and also cost of companies to a greater extent. Future research can be conducted in this field precisely focusing on



the effectiveness of implementing artificial intelligence in the area of HR in various industries. Organizations require a unique and creative skillset of candidates which gives them a competitive edge and can create a niche in the outcome of the organization. Research can also be conducted in order to identify whether the ethical consideration is the same for all industries.

### Originality/value

This study primarily focuses on the significance of technical breakthroughs in the field of artificial intelligence and their use in providing value for both the recruitment sector and the clients. By spotlighting AI systems in the recruiting sector in a brief and simple format, it saves both practitioners and researchers valuable reading time.

### Conclusion

This study was created mainly to understand the current literature available on artificial intelligence and its role in the recruiting area. In order to provide a holistic view of the topic, the present study is extremely useful in general. It is a technology that works smartly similar to a human brain. Recruitment is considered to be a central activity of every organization. nowadays this industry is looking up smart ways in order to recruit candidates. Artificial intelligence technologies have a tremendous impact on the recruitment industry and It helps employers in harmonizing unorganized bio data, finding and aligning the required set of skills for this industry. The role of AI is a blend of human and artificial intelligence, which leads to information maintenance and finally saves the company time and money with greater precision throughout the recruiting process.

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