

# Recruitment Through Artificial Intelligence: A Conceptual Study

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## ABSTRACT

For an industry, business, or corporation to succeed in this cutthroat age, they need to have high-quality employees to reach their goals. All of them are at the start of the fourth industrial revolution. To be competitive in this digital Everyone looks for bright, capable, and motivated workers. Businesses can manage the digital world and evolving business environment by hiring qualified candidates with the help of an efficient recruitment strategy. In order to hire competent workers who could be more successful and efficient in achieving the job objectives, every organization's recruitment strategy is crucial. Since hiring is a key organisational function, data analysis appears to be used to aid in the decision-making process. Data analysis is referred to as "Artificial Intelligence" is a critical factor in hiring decisions. The simplest definition of artificial intelligence is the creation of intelligent devices by humans. AI will behave and work like a human, and its ultimate objective is to enable computers to perform tasks that humans typically complete. The speed and accuracy of AI leadership is astounding. This paper's main goal is to investigate the ways in which artificial intelligence affects recruitment tactics. Additionally, the research sheds light on the methods AI businesses employ when hiring. The entire research for this paper was conducted using secondary sources of To further examine the idea, resources such as books, websites, peer-reviewed journal articles, and conceptual papers are used.

**Keywords:** Machine Learning, Industrial Revolution, Artificial Intelligence, Hiring.

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## INTRODUCTION

In order to compete in the digital age, organisations innovate new concepts to grow and survive. Machine handling increases and labour decreases as a result of innovation. Additionally, companies must train their staff on how to operate any machinery, software, or other equipment for that issue. These days, businesses are attempting to use hiring strategies that result in the acquisition of skilled workers.

John McCarthy first used the phrase "artificial intelligence" in 1950 when he released a paper titled "Computing Machinery and Intelligence," which helped to establish the field. These days, HR managers use artificial intelligence technologies to find, hire, and motivate skilled workers, which benefits both the company and the employee. AI in hiring has a significant part in hiring new employees (Madeline Laurano, Chief Research Office & Co-Founder). Almost 30% of businesses are using AI in their hiring processes, which can reduce downtime, save money, and match qualified candidates with suitable roles. "A field of study in the field of computer science" is how one defines artificial intelligence. The creation of machines that are capable of human-like cognitive functions including learning, reasoning, and self-correction is the focus of artificial intelligence. The main goals of artificial intelligence are quick thinking, knowledge acquisition, human-like thought processes, logical reasoning, etc. because it is a branch of computer science that provides answers to problems efficiently.

## Recruitment

Human resource management is acting dynamically as a result of the early stages of the fourth industrial revolution, which is focused on manpower as a crucial component of production in the performance of the organisation, which is the most crucial component for performance of the organisation in every activity. Of all management tasks, recruiting a competent candidate with the necessary skill set and matching the job specification to satisfy the goals and objectives of the organisation is one of the most difficult tasks faced by human resource managers. HR managers must prepare the recruiting pool for new millennials who can fit in with the organisation and comprehend the plans, operations, and conditions of organisations in order to hire people efficiently.

"Recruitment is the process of searching for candidates for employment and encouraging them to apply for jobs in the organisation," says Edwin B. Flippo. The recruitment process involves identifying the many sources of personnel that an organisation needs. It is a constructive procedure that draws in a variety of job seekers and encourages them to apply for the opening that the organisation has posted. According to Montgomery (2010), a human resource manager uses

people to accomplish organisational goals. Recruiting employees based on internal or external considerations for the company is the responsibility of the HR manager. Promotions and transfers are examples of internal candidate recruitment, while advertisements and other external sources are examples of external candidate recruitment. recommendations and more resources Arthur (2001). In between the establishment and the candidates, HR managers play a crucial function. Because this work entails selecting the best applicant with the skill set required by the specific job opening.

The foundation of any organisation is its human capital. Finnegan (1983) defined recruiting as placing "the right people in the right job."

### Artificial Intelligence (AI)

"Artificial intelligence is the science and engineering of making intelligent machines, especially intelligent computer programs," according to John McCarthy, the father of artificial intelligence. Artificial intelligence functions similarly to human intellect, including learning, adapting, and recognising and to rectify. The term "the science and engineering of making intelligent machines" was first used by John McCarthy in 1956. This computer-enabled system, also known as a robotic system, is made to process data and produce results in a manner comparable to that of human employees in the company, who use their capacity for learning, decision-making, and problem-solving. Artificial Intelligence (AI) is the study of utilising computers to simulate human intelligence.

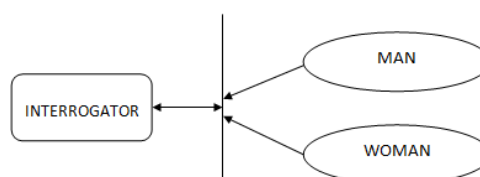
The ability of a digital computer or computer-controlled robot to carry out tasks often associated with intelligent beings is known as artificial intelligence (AI), according to the Encyclopaedia Britannica. Beings with the ability to adjust to changing conditions are considered intelligent. The ability of a computer or other machine to carry out tasks that are typically regarded to require intellect is known as artificial intelligence, according to Dictionary 1. The progress made in the area of computer science that deals with creating machines with this capability The subfield of computer science that deals with the ideas and procedures of symbolic inference by computer and symbolic knowledge representation for use in drawing conclusions, according to Dictionary 2. AI can be viewed as an effort to simulate some characteristics of human thought processes on a computer. Another definition of it is the attempt to use a computer to solve any task that a human can do more quickly.

The four main approaches to artificial intelligence are as follows:

### A system mechanism that mimics human behaviour

"The art of building machines that can carry out tasks that humans would find intelligent" (Kurzweil). Alan Turing suggests a game that would assess the distinction between human and computer working abilities. The purpose of the game is to provide an answer to the query, "Can a machine think?" We refer to this as "The Imitation Game." The following is a description of the Turing test, which is this imitation game:

The three components of the game are the interrogator (C), woman (B), and male (A). The interrogator and the other two remain in separate rooms. Determining which of the other two is the man and woman is the interrogator's goal in the game. At the conclusion of the game, the interrogator states either "X is Man" or "Y is Woman" or "X is Woman and Y is Man." He is given the values X and Y.

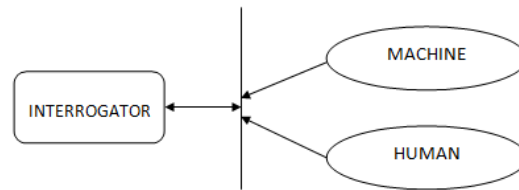


**Figure 1: Turing Test (Male and Female Interrogators)**

"In roughly fifty years, computers with a storage capacity of roughly ten dollars will be able to be programmed to play the imitation game so well that, after five minutes of questioning, an average interrogator will not have more than 70 percent chance of making the right identification," according to Alan Turing (1950).

"What will happen when a machine plays the role of Man in the game?" is the question that is now being asked. Will the interrogator make a mistake as frequently when a woman and a guy play the game? The initial question, "Can machines think?" is thus replaced by questions. When response time, voice traits, or other comparable criteria are measured, the answer to the game that determines who is who can be determined. When an intelligent C is programmed with intelligence, the Turing test can be performed; otherwise, it yields a criterion.

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**Figure 2: Turing Test (Human, Machine, and Interrogator)**

Artificial intelligence is a system mechanism that thinks like people. It has to do with automating the tasks that machines perform.

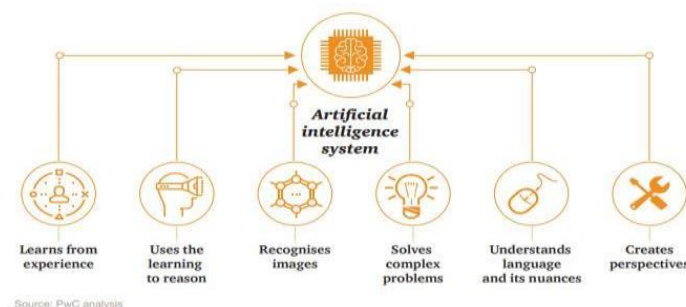
Activities that are linked to human thought processes result in critical issue solving, decision making, and learning capacity (Bellman). In terms of experience, "big picture," etc., the human brain thinks differently. One area of cognitive science is the cognitive modelling technique. Because developing a cognitive modelling strategy for AI technology is a multidisciplinary area. Cognitive science attempts to develop accurate and verifiable hypotheses between the two AI and experimental approaches in order to examine how the human mind functions. The test will only make a machine think like a human if it is designed with some aspect of human thought. And this makes one consider the true functioning of the human brain.

Artificial intelligence is defined as "the study of computations that make it possible to perceive, reason, and act" (Winston). This includes systems that have a reasonable thought process. The input we provide the machine determines its capability, and the intelligent programming that the machines have may determine the necessary output. As a result, how the machine is seen also results in ambiguous answers.

The rules of thought approach are necessary to determine whether computers behave rationally. Aristotle, a Greek philosopher, offered argument patterns that consistently produced accurate findings. Additionally, the law of thought attempts to regulate how the brain works and that result in the behaviour of ground logic.

iv. Reasonable system mechanisms: According to Luger and Stubblefield, artificial intelligence is "the branch of computer science that is concerned with the automation of intelligent behaviour." It is referred to as the intelligent agent method. A system that has perception and action is called an agent. When it comes to tackling genuine problems, it counts a lot. As a result, behaviour is prioritised as it can be tested scientifically more easily than ideas. More generally, the idea is to "just try to solve hard problems using intelligent machines," without knowing who is who, rather than attempting to solve them like the human brain does.

Something that attempts to see and act is called a rational agent approach. The equation Agent = Architecture + Program represents a rational agent. Agent refers to a mechanical agent, such as a machine or computer. Additionally, the machine has the ability to determine what must be done and what should not be done.



## Artificial Intelligence System

### LITERATURE REVIEW

However, AI technology has had a significant impact on people's daily lives. When compared to how it was, would be, or is perceived, technology and its innovation have reached every end of the world among people. This includes the use of smartphones as keyboards, voice-enabled assistants on tablets and laptops, and even the person's immediate personal technology supporting devices. Even the use of AI for the benefit of the nation's citizens working in fields like finance, health and safety, education, and government can be exploited. Nonetheless, artificial intelligence is used in practically every economic area. (ASSOCHAM, Artificial Intelligence and Robotics, general manager, D. S. Rawat, 2017)

According to Jonathan Kestenbaum (2016), executive director of Talent Tech Labs, a New York-based talent-acquisition technology consultant, HR professionals may at first be concerned about how AI could affect their jobs. However, he claims that "AI software can be used as a continuous problem-solver for HR by simply eliminating repetitive tasks and time-consuming data analysis."

"The turning point in the process of growing up is when you discover the core strength within you that survives all hurt," according to Dr. A.P.J. Abdul Kalam (2010). The most difficult war a person could ever fathom engaging in, and one that never ends until one reaches their destination—a UNIQUE YOU

The human resource manager's ultimate goal in the recruitment process is to identify the right candidate at the right time, which may involve using more sources or numbers. We would use a variety of methods to locate and place the best applicants in order to fill the designated positions. The efficacy of each organization's use of various techniques and procedures during the hiring process determines whether an internal or external factor—the two main components of recruitment—is present. When the hiring process attracts and chooses qualified candidates who are ready to succeed on the job, it is considered successful.

The creation and dissemination of tailored data, information, and sources during the hiring process increases its efficacy (Rao, 2010).

According to an article titled "The Rise of Facebook Recruitment" on Forbes.com, job seekers would have a clear idea of what they are looking for when they are browsing for a potential position. Additionally, the recruiters will know who their potential applicants are. A applicant and a corporation can more effectively match thanks to Facebook Career Pages. For example, the North American casual dining chain Earls has launched a Facebook recruiting campaign. They chose this platform because it enables them to communicate business policies, procedures, and cultures to prospective employees. Additionally, they mentioned that Facebook was more effective at social recruitment than Twitter and LinkedIn.

### Objectives of the Study

- To observe the present application of artificial intelligence in the hiring process.
- To comprehend the role artificial intelligence plays in hiring.

### METHODOLOGY OF THE STUDY

This conceptual paper was created using literature reviews as a basis. The concept of artificial intelligence and how it applies to recruitment strategy are explained in the literature. The entire document is draughted using secondary sources, including books, journals, reports, websites, and professional publications

The researcher began searching for all the necessary keywords in order to construct the paper in the correct manner, which led to the discovery of further research articles about AI and recruitment. The researcher was able to locate further relevant blogs that were solely focused on artificial intelligence, its significance, and its relationship to the business sector with the use of Google. The main term utilised for the entire research was AI-assisted recruitment. Workology, LinkedIn, and Harper.com were among the websites that primarily addressed AI and its implications for the workplace.

### Basics of Ai In Recruitment

We are at the start of the Fourth Industrial Revolution in the digital economy, which has swiftly led to advances in science like artificial intelligence, robotics, machine learning, nanotechnology, and algorithms that nearly complement one another. There is now a blurring of the lines between human and machine power as a result of the shift to the digital age. It appears that artificial intelligence is sweeping the HR and recruitment sector. Hiring well-known candidates with the necessary abilities for a position is known as recruitment. Outsourcing companies or the company's HR managers do this.

Both the employer and the candidate would save time and money if artificial intelligence and machine learning were used in the job search process. The usage of new technology in hiring will result in less attention to resume review and more time spent choosing potential candidates. About 65% of applicants look for a new job within 91 days of being recruited, according to Raj Mukherjee, senior vice president of Indeed.com. Given that Indeed.com has operations in over 50 countries and has over 200 million monthly visits.

**There are eight ways that HR uses AI in the hiring process:**

**Candidate Screening:** AI tools assist candidates in interacting with the company either before to or following their application for open positions. Because chat boxes are AI tools, businesses operating in the digital economy can

communicate with applicants through them. A chat box assists the candidate by answering questions, and an AI tool requests necessary information about the candidate as well as feedback.

**Candidate Engagement:** Although we use a variety of job sites to access and apply for jobs, less of them return to the application. An AI tool uses a message system or automated emails to automate the candidate application process. Because the candidate may stay in contact with these automated data, which could result in a prompt reaction from the candidate.

**Re-Engagement:** When a job vacancy occurs, the application tracking system frequently closes. However, by employing AI tools, it is possible to identify the chosen applicant and gauge their level of interest in the job. If a candidate approaches for a new position or promotion, the AI tool also takes advantage of the interaction opportunity to maintain an updated record of them.

**Post-Offer Acceptance:** The candidate will be requested for acceptance after completing the application process and any additional steps. There is a grey period once they have accepted, which often occurs two weeks prior to their start date at the company of their choice.

**New Employee Onboarding:** The new hire onboarding system is referred to as an orientation program. Because it introduces policies, processes, and organisational cultures, it works well for new personnel. AI technologies can also provide candidates with answers to all of these formal processes, and they can also help new recruits by providing them with resources and information that connects them to current programs.

**Career Development:** It is nearly impossible to encourage employees without well-established training programs, a learning atmosphere, and information on career advancement from superiors or bosses.

However, AI tools are the answer since they can run these programs and provide individualised coaching based on the needs of the company.

**Employee Relations:** At work, employees frequently have a lot of questions.

They may be questioned about their pay slab, vacation leave, appraisal, and benefit coverage. They occasionally ask complicated enquiries that take a long time for the HR manager to respond to. An AI tool handles all employee enquiries via a chat window, email form, or online discussion in a conference room.

**Scheduling:** Setting up a meeting or even making reservations for interview rooms is a waste of time that results in pointless activity that fills inboxes. However, an AI tool makes it possible to organise meetings, order food, and more without requiring any action on your part.

## IMPORTANCE OF AI IN RECRUITMENT

**Saving time:** AI saves time by preserving the records in a way that prevents the need for repeating events. The typical method of hiring involves allocating sufficient time to review each candidate's résumé. As a result, reviewing resumes is a tedious process.

**Talent Mapping:** AI helps human resources find the greatest talent the company needs. Additionally, it looks for individuals based on their competencies to match them with the best people for the job.

**Cost Savings:** Hiring the best candidate for the company is accomplished qualitatively, and the use of a recruiting agency is decreased. Thus, AI tools contribute to cost savings.

**Hire with Quality:** AI tools leverage vast amounts of data to recruit candidates and do objective screening and selection. Thus, it results in hiring qualified applicants.

**Answering Questions:** Workers receive up-to-date information and prompt answers to their questions. staff satisfaction eventually results in increased staff engagement. Additionally, it lowers the employee turnover rate and grants benefits for delivering quality work to the company.

**Unbiased Recruitment:** Machines are used to hire applicants; no humans are involved. Thus, it results in objective screening and the selection of candidates.

**Quality Candidates:** AI tools aid in the screening and selection of qualified candidates. Finding a candidate's abilities, competency, and qualities that align with the position they are applying for is helpful. Thus, it leads to the hiring of a talented applicant.



## CONCLUSION

Artificial intelligence is a technology that can function as intelligently in various contexts as the human brain. Comparing it to more conventional recruitment techniques highlights its significance and attention in automating the hiring process. The main task that every organisation must complete is recruitment. The hiring sector is currently expanding by using smart hiring practices, such as hiring using artificial intelligence. Additionally, a lot of industries are paying attention to the changes occurring in the hiring process. AI technology has a huge impact on hiring since it allows recruiters to match and identify skill sets needed by the sector, align some unstructured candidate biodata, and create uniform profiles. Recruiters believe AI technology is vying for their business in the modern era. However, it is software created by humans to make the labour more comfortable while the procedure continues. In summary, the integration of AI and humans results in data upkeep, cost and time savings for organisations, and increased accuracy and accessibility throughout the hiring process.

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