



**A STUDY ON ADOPTION OF ARTIFICIAL INTELLIGENCE IN RECRUITMENT
AND SELECTION PROCESS IN THE ERA OF INDUSTRY 4.0: A REVIEW PAPER**

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Abstract

Companies with the concept of greater resource saving and efficiencies opting to new technologies in the interview process, such as artificial intelligence. Artificial Intelligence is a technology which creates machines that can work and react like humans. It is an emerging field in the Information and Communication Technology arena. The main purpose of this paper is to analyze how digital technologies contribute to identifying, selecting and retention of talented employees are the successive stages of the recruitment process. An emerging and polymorphous phenomenon of recruitment, it begins with identifying candidates on social networks and continues through gamification of recruitment and ends by matching a candidate who fits to a job using artificial intelligence. Talent management has focused on a single, unsophisticated scheme for the last decade that would help end-to-end recruiting workflows, from applicant sourcing to onboarding a new employee. Most of them select E- recruitment than regular recruitment process and proved to be more successful in finding the right candidate for the right position.

Key words: A

rtificial Intelligence, E- Recruitment, Talent Management,



1. INTRODUCTION

A branch of Science known as Artificial Intelligence (AI) is concerned with helping machines solve complex problems in a more human way. It is generally done by borrowing characteristics of human intelligence and applying them to computer algorithms. A more or less flexible or efficient approach can be taken depending on the requirements established, which influences how artificial the intelligent behavior appears.

Next generation digital technologies like machine learning (ML) and artificial intelligence (AI) are creating a new wave of transformation in Business. HR departments are always challenged with an overwhelming task that is extremely time and energy consuming. From finding the right candidate to onboarding, managing payroll, benefits, and off boarding an employee, it takes a lot of time and effort. AI using workforce data will help HR professional to better understand their workforce and to foresee problems and trends in advance. AI tools will solve all the cumbersome of manual analysis and time-consuming task in HR and thus enable workforce to work on a more productive task.

Recruitment involves the identification of potential applicants and the marketing of positions. AI is commonly utilized in the recruitment process because it can help boost the number of qualified applicants for positions. Companies are able to use AI to target their marketing to applicants who are likely to be good fits for a position. This often involves the use of social media sites advertising tools, which rely on AI. Targeted advertising has many advantages for companies trying to recruit such being a more efficient use of resources, reaching a desired audience, and boosting qualified applicants. This has helped make it a mainstay in modern hiring.

2. OBJECTIVES OF THE STUDY

- The purpose of this study is to observe how artificial intelligence is currently used in recruiting.
- In order to understand the importance of artificial intelligence in recruitment

3. REVIEW OF LITERATURE

Pooja Tiwari Ph.D., (2021) As per author in dynamic and competitive world, technology has changed the pace of all the industry. Artificial intelligence is a technology which enables the industry to grow at faster pace and efficiently finishing their work. AI system has enabled the



organization to enhance their existing performance and efficiently performing functions on a day-to day basis. Currently, due to dynamic and competitive environment people working at different managerial level are working under pressure and understanding the need of artificial intelligence at workplace. Authors have used quantitative research to conduct the research and regression methods has been used to analyse the data.

Nabil Abdallah A. Almotawkel (2021)The purpose of the author through this article is to know the ethical impact of smart systems on human resource management, as well as the factors that hinder the spread of this type of system, by relying on a strategic and transparent research method to collect results, and the researcher will be interested in looking at the differences.

Yuan Pan (2021) In this research paper author explains Artificial intelligence (AI) has been presented as a powerful tool in human resource management (HRM). The present study introduces the technology, organization, and environment (TOE) model from information systems research and integrates it with the transaction cost theory to better understand the facilitators and the constraints of companies' AI adoption behavior during employee recruitment. Survey results from 297 Chinese companies suggest that companies' perceived complexity toward AI constrains AI adoption, while technology competence and regulatory support encourage AI adoption.

Dirk Nicolas Wagner, (2021) the combination of augmentation and automation that AI can offer makes it technologically feasible to scale dark managerial methods and to eliminate competition. The study was based on Secondary data. "Dark side of management" stands for. It generally refers to amoral and antisocial behavior that regularly stems from four types of personality traits: Machiavellianism, narcissism, psychopathy and sadism

Demetris Vrontis (2021) Author in this paper explains about although academic production in intelligent automation (e.g. artificial intelligence, robotics) has grown rapidly, we still lack a comprehensive understanding of the impacts of the utilization of these technologies in human resource management (HRM) at an organizational (firms) and individual (employees) level. This study therefore aims to systematize the academic inputs on intelligent automation so far and to clarify what its main contributions are to and challenges for HRM. In a systematic search of 13,136 potentially relevant studies published in the top HRM, international business (IB), general management (GM) and information management (IM) journals, we found 45 articles studying artificial intelligence, robotics and other advanced technologies within HRM settings.



This study discusses these shifts in detail, along with the main contributions to theory and practice and directions for future research. The objective of this paper was to conduct a review of research related to intelligent automation in HRM.

Fang Wang(2021) the human resource management of the manufacturing industry in the artificial intelligence process. New ways to promote the reform of human resource management in the manufacturing industry. It was Theoretical study. With the help of information technology and network technology, we must establish a sound human resource management information system, which can fundamentally improve the quality of human resource performance management of high-tech manufacturing enterprises

Nir Kshetri(2021)To examine the use of artificial intelligence (AI) in human resource management (HRM) in the Global South. This was based on multiple case studies analysis. To examine the nature of the various effects of AI on different groups of employees when this technology is deployed in HRM. The effects AI use in HRM on organizational capabilities such as organizational learning, knowledge management and innovative performance.

Ahmad Arslan (2021) The challenges that human resource management (HRM) leaders and departments in contemporary organizations face due to close interaction between artificial intelligence (AI) (primarily robots) and human workers especially at the team level. It was on Theoretical study. Paper highlights that interaction and collaboration between human workers and robots are visible in a range of organizational functions, where both are working as team members.

A.Hemalatha Ph.D. Research Scholar (2021) Author in this paper explains Artificial intelligence is a discrete branch of science and technology which has been exercised constructively over the past 60 years in various fields. While artificial intelligence is making its mark in almost all areas, human resources practices are not an exception. Human resource management is one crucial area in each organization and it is essential to realize that people who are part of human resource management have to be familiar with the notion of Artificial intelligence. The method used for data collection was the online survey and the tool used was the questionnaire. Along with the focus on the participant's perception of AI, and the study also aims to understand the current AI technologies being practiced in Human Resources practices. The study analyzed the perception of HR employees towards AI technologies in HRM.



Dr R. Bhagyalakshmi (2021) To determine the personal profile of the HR managers using AI application in HRM. To determine the dominant latent dimension of AI application in HRM and AI usage in HRM. To validate factorization of AI application in HRM factors through the construction of CRA model. To measure difference among monthly income group and opinion on AI usage group in both AI application and AI usage in HRM. Convenient sampling method was used for data collection with the sample of 140 HR employees. AI supports in integrating both human abilities and machine learning abilities in making a skillful decision making.

Alexis Megan Votto (2021) Tactical HRIS (T-HRIS) components are featured in literature and how each T-HRIS component is represented. Systematic literature review. Research gap. There is potential for future exploration on the managerial T-HRIS components, which are more human-centric. future exploration regarding technical and managerial HRM and HRIS and its relationship with AI

B. HMOUDI (2021) This study tackles the phenomenon of the adoption and acceptance of AI and smart applications in the HR recruitment and selection process. It aims to contribute to the technology adoption research area by providing the researchers, organizations, HR leaders, service providers, and policymakers with valid inputs and further understanding about the adoption determinants of AI based recruitment applications and examine the general attitude of HR leaders toward its adoption. Moreover, understand the relationship between the innovation characteristics and a set of predefined specific technological, organizational, and environmental factors with HR leaders' attitude toward the adoption of AI in HR recruitment. The sample consisted of 389 HR leaders drawn from the HR professionals' network in the Middle East using an online survey. The study concluded that participants possess a high positive attitude toward AI adoption. Moreover, HR leaders have a constructive perception of AI relative advantage in terms of its potential contribution to the efficiency, effectiveness, and quality of HR recruitment function.

Akanksha Jaiswal (2021) To determine the key skills deemed critical for the upskilling of employees. Conceptual data analysis and Sample size of 20 employees. Future studies may examine other options to build the workforce for the future, for instance, redeploying some employees with specific skills within the organization to make better use of their skillsets. Alternatively, since redeploying does not upskill employees, recruiting people with the desired skills maybe another worthy.



Melika Soleimani (2021) This research contributes to theory and practice. For academics, the conceptual model is an important step in understanding how cognitive biases are involved in AI. Determining the role of managers and developers in developing AI encourages individuals to take this into account when they are providing datasets and formulating algorithms. Although AI is being used in the business context, academic research about using AI in the business context is rather new. Therefore, there might be some challenges with this study. For example, the researcher may not be allowed to have access to datasets of an organization. Moreover, some managers might not give information about their past biased decisions.

Vanessa Laurim (2021) Identify personal and contextual factors that influence the acceptance of AI-based technologies in the recruitment process. Case selection and data collection. The stakeholders in the recruitment process will always be the key indicator of a successful acceptance of AI-based recruitment technologies.

Marwan Mohamed Abdeldayem(2020) phenomenon of using AI in human resources, especially in the kingdom of Bahrain, Which provide a future perspective of using AI to better understand the attitudes and perspectives of HR practitioners within multiple frameworks. the adoption of AI in human resource functions can help in reducing the amount of time HR professionals spend on administrative tasks, reducing the burden of shared service centers and help desks by performing HR transactions and providing answers for routine queries, recruiting and retention and measuring ROI.

S.Sangivikumar(2020) Focuses on the usage of AI in HRM. The success strategy to be adopted for effective implementation of AI to gain the competitive edge is business. The future of HR will most probably encompass a human-machine alliance and that can end up being a good thing.

K. Vijaya Sekhar Reddy (2020) To understand the role and importance of Artificial Intelligence in Rewards and Recognition programmes of the organization. To understand the growth of employees in the related to rewards and recognition policies of the organization. To determine the necessity of adaption of Artificial Intelligence in rewards and recognition policies of the organization. HR Tech Evangelist, who are great supporters of implementation of Artificial Intelligence in Human Resource Functions and are keen to witness change and understand the benefits of Artificial Intelligence. HR Tech Believer, who are supporters of Artificial Intelligence implementation in Human Resource practices but to limited fields and feel they should be humans involved in Human Resource Functions



WeiBin Zhu (2020) Implementing the tagging of human resources to form “Digital portrait” of talents at the basic level, building the decision and feedback system of human resources at the implementation level. The information collected via open channels suggests that there have been some classic cases of enterprise human resource management innovation, which have also attracted extensive attention in theory and practice

Rajasshrie Pillai (2020) The adoption of AI technology for talent acquisition. Framework Sample was with 562 hr managers. Further studies can take place to scrutinize the effect of AIT on the performance of the organization, Employer branding and HR/TA managers’ satisfaction

SihamBerhil(2020) It aims to present clearly the issues that HR researchers face and for which computer scientists seek solutions. Several HR Analytics were proposed and most of them used artificial intelligence algorithms and methods, which shows the rapid and observed development and the increased interest and competition in applying this technology in HR field

Mr. Vivek V. Yawalkar (2019) To study -Concept of artificial intelligence. -role of artificial intelligence in human resource management. -the benefits of artificial intelligence in human resource management. Descriptive research design and Secondary data. Getting right candidate to handle AI tools is one core challenge in front of industry and it can be difficult to HR department. Restrict HR department to take decisions in day-to-day life as technology overcomes the authority and role of HR into decisions making in an organization.

Dr. P. Bharani Kumari (2019) To identify the current AI technologies being applied in human resources practices. To understand participant’s perception about AI. Primary data and secondary data 50 Samples with questionnaire The study has revealed that organizations should be consistently concentrating on implementing AI technologies in human resource management practices such as planning & decision making, recruitment, training & development, performance analysis and work-life balance.

Eric Premnath and Arun Antony Chully(2019) To understand the perception of Human Resource Professionals in India towards Artificial Intelligence. Understand the current applications and future opportunities of Artificial Intelligence in Human Resource functions in the Indian business context. To identify the benefits HRs in India are reaping after the integration of AI into their function. The study revealed that the integration of AI into the HR functions in Indian companies has been relatively less compared to businesses from other countries.



Richa Verma, (2019) The role of AI in today's Human Resource Management. The reasons of adopting Artificial intelligence. To identify few of the business outputs of Artificial intelligence. To study the kind of skill set required so that man machine collaboration & HRM function can work hand in hand. Secondary data Convenient and judgement sampling technique has been used to collect the primary data. AI has its presence in recruitment and predictive analysis. AI is seen successful carrying out simple activities of HR but how far it can take up complex issues of HR is yet to see.

4. SCOPE OF THE STUDY

The study's scope was confined to 25 publications gathered from the internet through various online journals articles, research papers and Thesis.

5. RESEARCH METHODOLOGY

On the basis of literature reviews, this conceptual paper has been developed. An understanding of Artificial Intelligence and its role in recruitment strategy is supported by the literature. The entire paper is drafted using secondary sources such as websites, journals, reports, publications by professionals, and books.

6. IMPORTANCE OF AI IN RECRUITMENT

- Time savings: AI saves time by maintaining records in a manner that prevents the need for repetitive actions. The typical method of hiring involves taking enough time to review candidate resumes. Therefore, screening resumes is a tedious procedure.
- Talent mapping: AI helps HR find the finest talent needed for the firm. It also focuses on competency-based applicants to match talent with the appropriate position.
- Saving cost: By outsourcing recruiting agencies, the work of finding the perfect candidate for the firm is completed more effectively. AI tools therefore enable cost savings.
- Hire quality employees: AI tools operate in a way that makes extensive use of data for recruitment, unbiased screening, and selection. Thus, it results in the hiring of qualified candidates
- Resolving queries: Employees receive current information and prompt answers to their questions. Employee involvement results in employee satisfaction in the end. Additionally, it encourages loyal service to the company and lowers the staff turnover rate.



- Unprejudiced hiring: No humans are involved in the hiring process; only robots are used. Consequently, it results in objective screening and candidate selection.
- Credible aspirants: AI tools assist in the screening and selection of qualified candidates. Finding people with abilities, competencies, and traits that fit the position being applied for is helpful. As a result, talented candidates are hired.

7. FINDINGS

Based on the aforementioned study of the literature, where the bulk of the articles we came across concentrated more on general opportunities, it is recommended that further research be done on AI in recruitment as it is a relatively new area that has shown numerous prospects and promises. Additionally, more study should be conducted, paying close attention to the difficulties associated with deploying this technology.

Another recommendation is that scholars conduct additional research on the usage of AI-based recruiting from the perspective of candidates, as the majority of case studies we could find only looked at the business.

8. CONCLUSION

Finally, after evaluating the advantages and disadvantages of utilising AI in the hiring process, this will also assist readers in learning more about the development of AI technology in hiring over the past several years. Finally, after analysing the advantages and disadvantages of utilising AI in the hiring process, this will also assist readers in learning more about the development of AI technology in hiring over the past few years, and recruiters may be able to develop fresh concepts, evaluate current difficulties, and take advantage of forthcoming opportunities. A systematic literature review has been conducted by examining and scrutinising both the positive and negative aspects of artificial intelligence. This has resulted in the identification of four themes, wherein the role of AI describes various benefits and uses of AI tools that may present opportunities for both recruiters and applicants, the role of the actor describes how AI can help them by streamlining the procedure, potential risk explores various types of challenges relating to the system, which is essential, and the role of the actor describes how AI can assist

Another question is whether it will be possible for HR professionals to address the difficulties stated here. How much of the hiring process is successful enough to be carried out without human involvement given that it can be fully automated by machines? We



propose that further investigation of the existing systems can provide answers to these issues. As a result, this research enables employers to assess the usability and viability of employing AI in their hiring process and to be certain of what to anticipate from this technology and what needs to be taken care of before applying it. This thesis will also inspire other academics to investigate this subject in greater detail and perhaps uncover brand-new areas for investigation.

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