A Study on Role of AI in Recruitment and Selection Process

Gurcharan Singh
Research Scholar, Department of Management & Commerce, Jayoti Vidyapeeth Women's University, Jaipur.

Dr. Mini Amit Arrawatia
Professor, Department of Management & Commerce, Jayoti Vidyapeeth Women's University, Jaipur.

Abstract

Artificial Intelligence making a widespread impact in day to day life of humans. It has become an undefeatable instrument which can be employed by human beings and a range of companies. The capacity of artificial intelligence to collect and order massive amounts of data has made the work of human resources experts easier and more efficient. The objective of this research is to understand the feelings of employees concerning the use of artificial intelligence in the recruitment of new employees and the selection of new candidates. Furthermore, the study aims at assessing the role of AI in the hiring and selection of applicants. The aim of this paper is to provide insight into the increasing trend of artificial intelligence in human resource management. A conceptual paper was created for this study and descriptive research approaches were used. Data for this study project was collected from surveys, papers and journals throughout the data gathering phase. According to the study, the use of Artificial Intelligence technologies in the recruitment and selection process appears to make the decision-making process more objective. Most workers would prefer to adopt recruitment and selection processes based on artificial intelligence than traditional approaches. But many feel this technique lacks a human touch. This poll is restricted to the employees of information technology firms. The usage of artificial intelligence powered tools in the recruiting and selection process would lead to more efficiency in identifying and acquiring more qualified prospects. The conclusions of this analysis also help the researchers better understand how employees feel about artificial intelligence. The use of artificial intelligence in the recruiting and selection of applicants is not going away anytime soon.

Key Words: *Artificial Intelligence (AI), Human Resources (HR), Human Resource Management (HRM), Indomitable Tool, Unbiased Decision Making.*

INTRODUCTION

Over the last few decades the internet has evolved from a collection of documents into a network of persons, software applications and technological hardware. Until recently, "artificial intelligence" and "machine learning" were arcane and hard to understand phrases. Formal reasoning, commonly called mechanical reasoning, had been studied by philosophers and mathematicians since antiquity. With the increasing availability of digital computers in the mid 1950s, the concept of an electronic brain became increasingly tangible. By the 1980s, artificial intelligence systems had been created that could mimic the analytical skills of human specialists. This resulted in the emergence of artificial intelligence as an alternative to the classical methods. Artificial intelligence (AI) and machine learning are data-driven technologies that automate work across many organisations and around the world, even in homes. Artificial intelligence is implicated throughout the process of generating different datasets and recruiting talent. The aim of any organization's recruitment process is to enhance or increase its human resource in the organization. The recruitment of

talent for a corporation is one of the most significant actions conducted in the application of artificial intelligence (AI). The recruiting process can be automated by automating manual operations and through machine learning to choose the best applicant.

ARTIFICIAL INTELLIGENCE-DRIVEN

Artificial intelligence-driven solutions enable for automatic screening of thousands of resumes and reduce time-consuming human tasks. The job of human resources has become more efficient and successful with the use of AI in the recruitment and selection process. AI's ability to execute a number of human resources activities has made it an important tool in the human corporate and company global sector. Hiring new personnel in organisations has become much more efficient, much speedier and much less labour intensive. The artificial intelligence has greatly cut down the amount of drudgery that human resources personnel have to do by accomplishing duties in a concise and timely way. The applicants and the human resources department can easily communicate with each other. The artificial intelligence does the heavy lifting of sorting through the huge pool of applications to find the right applicants.

The recruiters use artificial intelligence (AI) to assess and comprehend the data. The recruiters access the data through the internet. The company uses Artificial Intelligence techniques for most of its recruitment process. In contrast, it is the department of Human Resources who is accountable for the ultimate decisions. The use of artificial intelligence in the recruitment and selection process enables companies to provide an efficient, fast and smooth output. However, there are some issues that have been raised by the people regarding the effectiveness and efficiency of AI along with this process. In contrast, artificial intelligence has simplified the process of hiring new individuals for the business and increased the quality of the job.It seems that artificial intelligence plays a huge role in the new ways of hiring. The fact is that AI is here to stay, no doubt about that. More specifically, the objective of this study is to explore how employees feel about artificial intelligence.

Technical developments in artificial intelligence (AI)

There have been many life changing events that have occurred inside civilisations during the course of human history. Therefore, the advent of new technologies and equipment has changed the way we do some of our tasks in time. This is a crucial point. This is especially true when talking about the process of hiring new workers at firms and the resources and tools available to improve the efficacy and productivity of the hiring process. Technology is influencing the way we search and identify highly qualified people for job opportunities through the use of computer programs, analytics and various other cutting edge equipment. AI has changed the way that human resource departments carry out hiring, which has become considerably more efficient in terms of employing new staff. Technical developments in artificial intelligence (AI) are enabling human resources departments to find suitable candidates for employment. This is where a resume parser comes in. A parser is a computer software that looks at resumes to see what the important pieces of information are that are contained in the resume. Resume parsers are used to pull information out of resumes. This tool will allow human resources departments to make better choices while recruiting and will also speed up the process of selecting candidates.

Artificial intelligence can also help HR departments build the best possible match between job applicants and job requirements by helping them assess candidates' talents and qualifications in relation to job needs. It can do this by looking at educational background, geographic area and keywords used, all through artificial intelligence. This study is looking primarily at Ireland for the purpose of acquiring a better

understanding of how people react to the use of artificial intelligence to hire hundreds of workers all at once. We want to see if and how the use of artificial intelligence is a viable alternative, especially for jobs that require highly specialised skills that are generally difficult for AI to comprehend. These skill sets might not immediately affect a company's bottom-line performance but they have the potential to make a major long-term impact in the areas of employee satisfaction, employee perceptions of the organization and employee collaboration within the industry.

Objectives of The Study:

1. To study on trend of using AI in HRM (human resource management).
2. To evaluate artificial intelligence's contribution to the hiring and selection process.

REVIEW LITERATURE

Denni Arli, J. Stewart Black and Patrick van Esch, (2020) 'Job candidates' reactions to AI-Enabled job application processes', November study on the topic. In this study, job candidates were asked how they felt about using AI-enabled job application platforms and whether they would apply for a position that was AI-enabled or not. This study used a cross-sectional design. The study aimed to investigate the impact of artificial intelligence (AI) on recruitment, including its capacity to identify the right candidates, encourage them to apply, eliminate those who did not meet the required qualifications and differentiate between candidates with higher and lower qualifications.

Agata Mirowska, (2020) "Effects of Artificial Intelligence Evaluation in Selection on Application and Pursuit Intentions." The aim of this study was to examine the influence of the job and the organization on applicants' intentions throughout the selection process of the organization itself. Findings from the investigation indicate that further research on this new technology, also called artificial intelligence-based or simply automated evaluation, leads to different perceptions, reactions and behavioural intents.

Siddhi Mehrotra and Akanksha Khanna (2022) The survey revealed that firms are open to using automation into human resource management, and recruiters can employ artificial intelligence to some degree for the purpose of hiring persons. The method used in this study was thematic analysis. The researchers concluded that the outcomes of this research are going to be a useful tool for human resource managers and recruiters when artificial intelligence deployment. Also, these people would be able to take advantage of technological developments that would reduce costs.

Tewari, Isha and Pant, Mohit, (2021) Artificial Intelligence Reshaping Human Resource Management (April, 2021). The role and operation of this technology in HRM activities were acknowledged based on the conclusions of the research. This study examined the extent to which the process of appointing, managing, and engaging the workforce within a business has altered as a consequence of incorporating AI into HRM procedures. The study also showed the obvious benefits of artificial intelligence (AI) when human resource management (HRM) and the secret problems that await it in the future.

RESEARCH METHODOLOGY

The present study is quantitative in nature and descriptive-correlational in design. The independent variable is artificial intelligence, and the dependent variable is the improvement of recruiting and selection processes. The objective of this study is to explore the relationships and associations between the two variables. The goal of the study is to identify and analyse the impacts of artificial intelligence on the recruiting and selection processes in public sector enterprises. The sample size of this inquiry was 256

persons, which is the minimum number of respondents that is required for structural equation modelling. Questionnaires were provided to these respondents, and six of the questionnaires were discarded as they had incomplete responses. The remaining 250 respondents selected via multi-stage cluster sampling technique were subjected to statistical analysis.

Data collection was done through library and outdoor research. The two-pronged technique was aimed at deeper understanding of the topic and at construction of valid models contributing to the advancement of knowledge in this sector. The initial step in the research process involved the researcher locating and choosing credible academic material. Books, scientific journals, theses and research papers were included. These sources examined a variety of concepts, models, best practices, and challenges in the sector. Well-known academic databases from the United States and other nations were used. In an effort to get a full grasp of the current condition, the domestic sources such as articles and theses from universities were also deeply studied.

A common questionnaire was applied from the beginning of the field study phase. Artificial intelligence was measured using the scale created by Faraji et al. (2023). This scale consists of five components as follows: AI management (three items), AI-based decision making (four things), AI infrastructure (five pieces), AI abilities (five items) and AI adoption likelihood (five items). The Armstrong questionnaire (1991) in its standard form was used to conduct the recruitment and selection processes. The questionnaire comprised four separate items.

Table 1. Validity and Reliability Results of the Main Questionnaire

Component	α	CR	ω	AVE	MSV	ASV	HTMT
Artificial Intelligence	0.73	0.80	0.83	0.56	0.41	0.23	0.68
AI Management	0.78	0.82	0.85	0.58	0.43	0.25	0.64
AI-Based Decision-Making	0.72	0.81	0.82	0.64	0.46	0.30	0.73
AI Infrastructure	0.75	0.79	0.84	0.61	0.45	0.29	0.71
AI Skills	0.71	0.83	0.85	0.59	0.44	0.27	0.74
AI Adoption Propensity	0.74	0.84	0.87	0.65	0.47	0.32	0.65
Recruitment and Selection	0.75	0.85	0.83	0.66	0.43	0.38	0.75

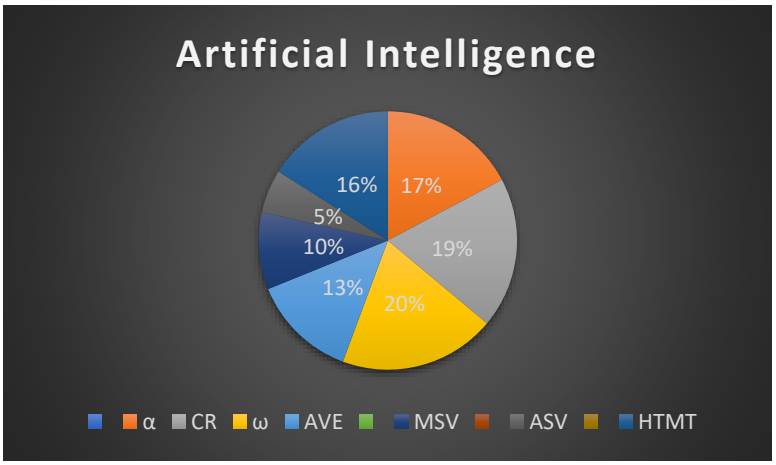


Fig 1: Validity and Reliability Results for the Main Questionnaire

The components all had AVE values significantly greater than 0.5, indicating that the items that belonged to each dimension accounted for more than half of the variation for the dimension. The results indicated that convergent validity existed. The MSV and ASV values of each component were substantially lower than the relevant AVE values, which confirmed the discriminant validity of the model. These results suggest that each dimension measures its construct independently and efficiently with minimum interference from itself. Descriptive and inferential statistics were used to address the purposes of this inquiry. The descriptive study used percentages, frequencies, tables and charts to present several demographic factors. Such criteria included age, gender, education level and years of job experience. The research variables were analysed using methods such as mean, standard deviation, skewness, and kurtosis by the use of IBM SPSS Statistics Version 23 (2015).

The inferential analysis was conducted by using structural equation modelling (SEM) technique. The study was done by using SmartPLS-V3 (2016). Researchers can use the software to empirically evaluate theoretical models by examining the relationships between observable variables and latent variables. The choice of SmartPLS-V3 was mainly because of the complexity of the model which has a significant number of observable and latent variables.

THE FINDINGS AND THE RESULTS

The study data in this area are analysed and evaluated using methods from the scientific community. Initially, the demographic features of the participants who participated in the survey were examined. Twenty-two percent of workers are under the age of forty, thirty-four percent are between the ages of forty and forty-five, twenty-three percent are between the ages of forty-six and fifty and eleven percent are over the age of fifty. Based on these data, the maximum frequency is observed in the age range of 40-45 years old and the lowest frequency is observed in the age group more than 50 years old.

12% of the workers have less than five years of experience in their current position, 29% have five to ten years, 32% have eleven to fifteen years and 27% have more than fifteen years. Based on the results obtained, children in the age group 11-15 years appear to have the highest frequency, while children younger than 5 years have the lowest frequency. Table 2 shows the measures of central tendency and dispersion for the variables studied. The minimum and maximum values for each variable are 1 and 5.

Table 2. Statistical Characteristics of Research Variables

Component	Mean	Standard Deviation	Skewness	Kurtosis
Artificial Intelligence	3.210	0.668	0.759	-0.173
AI Management	3.014	0.764	0.597	-0.299
AI-Based Decision-Making	3.503	0.645	0.460	-0.452
AI Infrastructure	3.344	0.718	0.556	-0.314
AI Skills	3.345	0.721	0.555	-0.378
AI Adoption Propensity	3.157	0.889	0.391	-0.079
Recruitment and Selection	3.455	0.653	0.471	-0.454

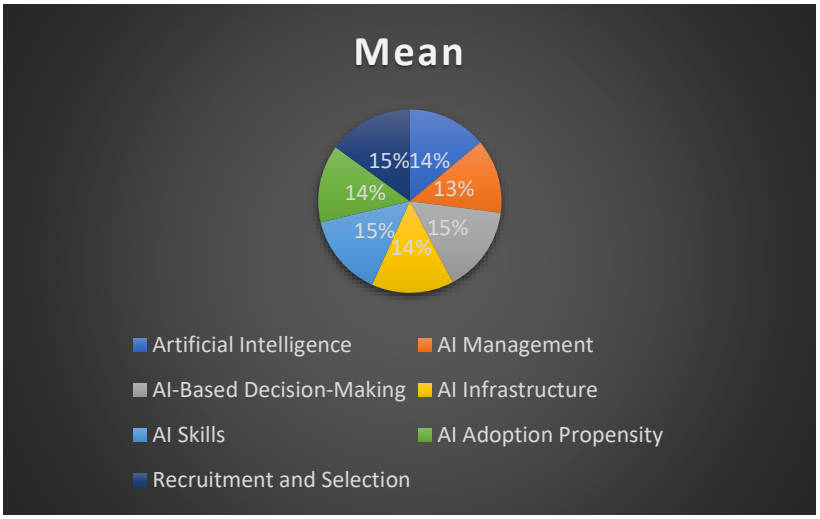


Fig 2: Statistical Characteristics of Research Variables

The statistical significance indicators of the research variables are shown in Table 2. Mean, standard deviation, skewness and kurtosis are the markers. The values of skewness and kurtosis are in the acceptable range (-2 to +2), hence it is reasonable to assume that the data are normal. The results suggest that the highest average % is related to AI-based decision-making and the lowest average percentage is related to AI management.

Structural equation modelling (SEM) was used for the aim of assessing the model. Prior to the use of structural equation modelling (SEM), parametric tests such as Pearson correlation were carried out due to the interval scale and the normal distribution of the data. The results are explained in the table shown below.

Table 3. Correlation Between Variables

Variable	Artificial Intelligence	Recruitment and Selection	Significance
Artificial Intelligence	1.000	0.769**	0.000
Recruitment and Selection	0.757**	1.000	0.000

The sign ** denotes a strong correlation between the study variables at the 0.01 level which shows a direct association between the variables for the research. You may also view the table of associations and their strength.

Path analysis was carried out through the use of SmartPLS in an effort to assess the causal links that exist between endogenous and exogenous variables, as well as to validate a model's ability to fit the data. Results are presented in the form of path diagrams and fitting indices.

CONCLUSION

The present study named “Role of AI in Recruiting and Selection” attempts to study the influence of artificial intelligence (AI) on modern recruitment procedures and the perception of the respondents toward the use of AI in human resource management. The results of the poll indicated that artificial intelligence is a factor that helps to promote recruiting and selection procedures that are carried out more swiftly, more efficiently, and with better precision than traditional ways. Almost majority of the respondents had a good view on the use of AI in the recruitment process. The study examined the possibility of artificial intelligence (AI) improving the processes of recruitment and selection in companies within the public sector. The results indicated that artificial intelligence and all of its components have a considerable and positive impact on

the improvement of recruitment and selecting procedures in firms that are part of the public sector in Tehran. The results show that the integration of Artificial Intelligence (AI) in human resource operations is an efficient technique to improve performance in terms of accuracy, efficiency and transparency in recruiting and selection procedures. AI management is a crucial component that allows companies to make full use of artificial intelligence technologies. The results show that it is possible to considerably improve the recruitment and selection processes when having a clear plan and applying the best management practices related to the use of AI. This enables organizations to take full advantage of the opportunities that AI tools offer and enhance their operations.

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