Using AI in Recruitmentand Recruitment Strategies – Resume Screeningand Candidate Matching

Ramesh Varma Rudraraju
School of Management Studies, GEIT University, Gunpur, Odisha, India
Email Id: ramesh.varmarudraraju@giet.edu

Dr. Smrutirekha Sahoo
School of Management Studies, GIET University, Gunupur, Odisha, India
Email Id: smrutirekhasahoo@giet.edu

Dr. A.V. Joga Rao
Department of Management Studies,Gayatri Vidya Parishad College for Degree and PG Courses(A), Visakhapatnam, Andhra Pradesh ,India
Email Id: jogarao.attota@gmail.com

Abstract: *The purpose of this study is to investigate both the promise and the limitations that Artificial Intelligence (AI) presents in this area or recruitment for screening and matching the candidate profile for the open positions . The purpose of this study is to provide a comprehensive review of present AI-driven recruitment strategies by drawing on material from academic and professional sources. This study investigates the benefits and drawbacks of using artificial intelligence (AI) in the recruitment process such as screening and candidate matching, as well as analyses the effectiveness of numerous AI-driven recruitment strategies. Techniques for recruitment that are driven by artificial intelligence, such as social media screening, video interviewing, Chabot's, predictive analytics, Gamification, and resume screening, have the potential to provide significant benefits to businesses. The use of these methods results in cost reductions, increased productivity, identifying high potential candidates, avoid bias and the identification of better prospects. The research highlights the need of doing more research and development. This is necessary in order to ensure that AI-driven recruitment tactics are successful, unbiased, and in line with ethical and legal standards. The significance of the research lies in the fact that it investigates artificial intelligence (AI) in the context of recruitment in great detail, assessing it from both academic and business perspectives, and evaluating the benefits and drawbacks, including ethical and legal considerations.*

Keywords: *Artificial Intelligence (AI); AI-Based Recruitment Strategies, Predictive Analytics, Resume Matching, Resume Screening, Recruitment.*

Introduction

When it comes to the creation of new and adaptable economic business models, digital transformations, which primarily seek to grow and build markets, are at the forefront of the process. These changes serve as a compass that directs both the competitive environment in which an organisation operates and the path that market growth takes. The use of information technology in the process of hiring new employees is a conspicuous example of the digital revolution that is now taking place. It is possible to increase the efficiency and competitiveness of the recruitment

process via the use of information technology (IT). This is accomplished by simplifying and speeding up the hiring process, as well as boosting exposure to potential candidates. As a result, it is vital for businesses to include information technology into their recruitment processes in order to maintain their competitiveness and adaptability in the modern market (Ahmed et al., 2023)[1].

It is becoming more common for businesses to seek assistance from artificial intelligence (AI) in order to optimise their recruitment processes. This is being done in an attempt to expedite the process of hiring new employees. According to Budhwar et al. (2022)[2] and Ore and Sposato (2021)[3], artificial intelligence is finding more and more applications in the process of recruiting. These applications range from advertising vacancies to screening applicants, performing assessments, candidate matching for the requirement and even on-boarding new employees. Using artificial intelligence in the recruitment process may have a number of potential benefits, including increased efficiency, less bias, improved applicant experience, applicant tracking and improved recruiting outcomes, to name just a few. There are a number of potential drawbacks, some of which include the need for human supervision, certain ethical problems, and the danger of algorithmic bias.

In spite of the growing interest in these technologies, there is a dearth of research on the effectiveness and limitations of methodologies or strategies that are based on artificial intelligence for recruitment. In spite of the vast amount of published material on the topic, the bulk of research have chosen to focus on assessing certain AI-based tools or methods rather than examining the current state of artificial intelligence in the recruitment process. For the goal of determining the advantages and disadvantages of the various AI-based recruitment tactics that are now in use, it is required to carry out an analysis of these approaches. Not only has there been a limited amount of research conducted on AI-based recruitment strategies, but there has also been a conspicuous absence of in-depth studies that may shed light on the benefits and downsides of these strategies. According to Chen (2022)[3], Two examples of AI-based recruitment technologies that have been the topic of considerable inquiry are machine learning algorithms for the purpose of sifting resumes and Chabot's for the purpose of applicant contact. These two examples highlight how artificial intelligence may be used to power recruiting platforms. The breadth of these studies is limited since they do not cover the whole landscape of artificial intelligence in recruitment at the present time. Despite the fact that they provide light on the potential benefits of AI in the recruitment process, it is important to note that they are limited in scope.

Hunkenschroer and Luetge (2022)[5], Tippins et al. (2021),[6] and Yam and Skorburg (2022)[7] are just a few of the articles that have addressed the ethical and legal concerns surrounding the use of AI in the recruiting process, including the possibility of bias and discrimination, privacy invasions, and the necessity of transparency and accountability. These studies do a fantastic job of bringing attention to major problems associated with AI recruiting; yet, they do not cover all the bases when it comes to the numerous strategies that are based on AI recruitment. A critical examination is required in order to determine what aspects of the current AI-based recruitment approaches are successful and which are not, as well as to identify the areas in which there are deficiencies. Companies would be wise to do this kind of research before deciding to employ AI for hiring purposes. By doing so, they can guarantee that they are using the most effective and moral AI-based hiring practices. This study aims to provide a thorough overview of the various AI-based recruiting tactics currently being used. Sources for this research include both scholarly works and information from businesses. This research will take a critical look at the pros and cons of utilising AI for recruiting and will compare and contrast several AI-based recruitment tactics to see which ones work best. Improving knowledge of the potential of AI in recruiting is crucial to achieving the objectives of this

research, which is to illuminate the pros and cons of this technology.

Significance and Purpose

Giving a thorough evaluation of the present state of AI in recruiting is the importance and goal of this work. In this article, we will take a close look at artificial intelligence (AI) recruiting tactics, such as resume screening, candidate matching, chabot's, predictive analytics, and machine learning algorithms, and try to weigh their pros and cons. The research aims to shed light on the pros and cons of using AI in recruiting by doing this analysis, which should add to our knowledge of AI's potential in this area. The study's literature analysis summarises the different AI-based recruiting tactics and evaluates them according to recruitment outcomes including diversity, retention, and applicant quality. Ethical and legal issues, such as prejudice, privacy, and discrimination, are also addressed in the research. This research compares and contrasts the best AI-based recruiting tactics by doing a thorough analytical examination of each. Concerns about algorithmic bias, the need for human supervision, and the possible detrimental effect on applicant experience are among the limits and difficulties of AI in recruiting that the research assesses.

Literature Review

This part will include significant research on the basics of recruitment, various applications of artificial intelligence, and the present practice of integrating AI into the employment process. Initially, the information gathering process begins by using search engines like Google Scholar, library databases such as the one managed by Umea University, and online platforms like Research Gate and Science Direct. The literature evaluation included both forward and backward searches to locate pertinent material. Forward search involves identifying an article that references several well-known publications. This is the objective of the search activity. Schryen (2015)[8] and Webster and Watson (2002)[9] state that some search engines, such as Google Scholar and Research Gate, do forward searches. The term "backward search" as defined by Webster and Watson (2002)[9] and Vom Brocke et al. (2015)[10] involves locating relevant publications by examining the reference lists of previously published works that have had a notable influence. We have done our search to gain a response to the research question we offered. Templier and Paré (2015)[11] and Okoli (2015) [12] emphasise that research should focus on the study issue and the search approach should directly relate to the research question. We initiated a search using the term "AI in Recruitment" to get pertinent results for our inquiry. The search produces a diverse range of results, some of which are completely unrelated to the notion of "intelligence in recruitment." Research in this field is still relatively fresh due to the quick speed of progress. We decided to limit our search to findings from 2015 to 2020 since that time frame yielded the best outcomes.

Recruitment Process

According to Stoilkovska, IIieva, and Gjakovski (2015)[13], recruitment is the process of getting a large as well as qualified group of candidates for a job vacancy that is being offered by an organisation. The purpose of the recruitment process is to choose the individual who is the best qualified to fill a particular employment opening inside an organisation among a pool of candidates. The purpose is to find a candidate that is not only appropriately qualified for the post, but also fits in with the culture of the organisation. According to Kamran, Dawood, and Hilal (2015)[14], the process of recruitment involves locating people who possess characteristics that are appropriate for the position, as well as motivating and persuading them to join the company. During the process of hiring new employees, the primary objective should be to identify the most qualified candidate who matches well with the culture of the company and is an excellent fit for the position that is available. Administrative responsibilities, such as advertising job opportunities and managing applicant data, are included in the process of recruiting. Additionally, crucial strategic recruitment decisions are made throughout this process. Due to the fact that it

offers the first opportunity to predict the conduct of future workers and to make relevant arrangements, recruitment is considered to be a strategic function of human resources. According to Stoilkovska, IIieva, and Gjakovski (2015)[15], another strategic objective is to reduce the costs associated with recruitment and to shorten the duration of the recruitment process in order to avoid losses resulting from unfilled jobs.

Almajthoob et al., (2023)[15]There is a possibility that the beginnings of AI-driven recruitment may be traced back to the 1990s, when online job boards and applicant tracking systems (ATS) were first beginning to appear. These technological advancements made it possible for businesses to post advertisements for open positions on the internet and to manage applications submitted electronically. However, these first systems were not really driven by artificial intelligence since they relied on fundamental algorithms to associate candidates with job requirements by making use of keywords. The early 2000s saw the beginning of the development of the first true AI-based recruitment strategies. Cappelli et al. (2018)[16] provided an early example of the use of predictive analytics, which included the examination of applicant data in order to identify patterns that might be used to estimate which applicants were more likely to be successful in a certain position. Companies such as Google were among the first to use data analysis in order to improve their methods of recruitment and reduce the amount of employees who left their jobs (Singh et al., 2022)[17]. AI was first used in the recruitment process by using chatbots for the purpose of screening and pre-qualifying applications. The bots would interview the candidates by asking them a series of questions in order to determine whether or not they meet the fundamental qualifications for the position. In accordance with the appropriateness of the candidates, the bots would either recommend further assessment or reject them. This strategy made the first stages of the recruiting process easier to understand and automate, which in turn lowered the amount of work that was required of human recruiters (Gupta and Mishra, 2022)[18]. The use of artificial intelligence (AI) has resulted in the development of a technique that enhances the accuracy and effectiveness of the evaluation and selection of applicants. Machine learning (ML) and natural language processing (NLP) are two of the cutting-edge technologies that are used in this approach. There are certain businesses that employ video interviewing technology that is powered by artificial intelligence in order to assess the facial expressions, body language, and speech patterns of potential applicants. According to Zimmermann et al. (2016) [19], this assists in the identification of characteristics such as emotional intelligence, communication skills, and levels of confidence.

Artificial Intelligence (AI)

Within the realm of computer science, the term "artificial intelligence" (AI) refers to and defines the inherent intelligence that computers possess. The concept of artificial intelligence is still unclear, and many people continue to wonder what it really is (Kaplan & Haenlein, 2019)[20]. This is despite the fact that a significant amount of time has passed since its discoveries. According to Jarrahi (2018)[21], the word "artificial intelligence" (AI) may have several meanings depending on the circumstances, the activity being performed, and the amount of intelligence involved. According to Russell and Norvig (2010)[22], one definition of artificial intelligence (AI) is a system that is capable of learning, speaking, and being able to solve problems in a manner that is comparable to that of a human brain. According to Kaplan and Haenlein (2019)[23], artificial intelligence (AI) is defined as the capacity of a system to adjust to changing conditions in order to accomplish goals that have been established in advance. The requirements make it very obvious that artificial intelligence need to have human-like intelligence, which encompasses cognitive, emotional, and social capacities, in addition to the ability to solve problems in a timely and correct manner. According to Kaplan and Haenlein (2019)[23], there are three distinct categories of artificial

intelligence systems, which are categorised according to their degree of intelligence: analytical, human-inspired, and humanised AI. Among the many applications of analytical artificial intelligence with cognitive intelligence are the detection of fraudulent activity, the identification of pictures, and assistance for virtual classrooms. This particular kind of artificial intelligence is able to gain knowledge from its experiences and use that information to make decisions in the future. Due to the fact that human-inspired artificial intelligence has both cognitive and emotional intelligence, virtual recruiters, for example, are able to determine the emotional state of an applicant while making a placement decision. An example of a humanised artificial intelligence system would be a virtual agent that responds to clients in real time and has the cognitive, social, and emotional capabilities necessary to connect with them.

There are a number of subfields and algorithms that fall under the umbrella of artificial intelligence (Jarrahi, 2018)[21]. Some examples of these include deep learning, neural networks, machine learning, genetic algorithms, machine vision, and many more. According to Ved et al. (2016[1]), some of its other areas of growth include robotics, natural language processing (NLP), expert systems, and automated reasoning. Statistical approaches are used in machine learning, which is one of the primary subfields of artificial intelligence (Raub M. 2018)[25]. These methods allow computers to learn and improve their performance over time using certain tasks. For the purpose of obtaining an accurate result, a significant amount of structured data is required. On the other hand, some sectors, such as the healthcare industry, produce unstructured data that is devoid of distinguishable and recognisable characteristics. The development of apps that use machine learning becomes a laborious process as a result of this (Stefano A. Bini & MD, 2018)[26]. Deep learning is a relatively new discovery in the field of machine learning that allows computer programmes to learn how to do tasks such as recognising voices and faces. This is accomplished by sending a vast amount of data into a neural network that has several layers. Akin to the way in which a child acquires knowledge, deep learning has the ability to autonomously evaluate unstructured material by identifying features. The year 2018 saw the publication of Stefano A. Bini and MD,(2018)[26]. Natural language processing, which refers to the capacity of computers to perceive and analyse human language, is one of the areas that it further advances (Ved et al., 2016; Jarrahi, 2018)[24,21]. Other areas that it progresses in include robotics, machine vision, expert systems, automated reasoning, and natural language processing.

Another top usage of AI in the hiring process

In 2018, artificial intelligence (AI) has been widely used and integrated into the recruiting processes of a variety of organisations, representing a significant advancement in the industry of employment. According to Upadhyay and Khandelwal (2018)[27]when it comes to filling a professional job, the most effective technique has always been to locate the most qualified individual. It should come as no surprise that social media has a significant influence on people's life given the amount of time that people spend on social media sharing their thoughts and views. (Van Esch & Black, 2019)[28]. The recruiter started promoting the position on social media to expand the reach of the job opportunity. This leads to a significant increase in the number of applications, which complicates the process for HR to promptly recognise and recruit the most qualified individuals (Michaelides, 2018)[29]. Businesses incur significant expenses when hiring recruiters to review several applications for a single job vacancy. Digital technologies are more efficient and effective than people in this regard (Van Esch & Black, 2019)[28]. Cognitive biases are natural in the human mind and may occur spontaneously. Recruiting organisations should use AI-driven technologies to enhance efficiency and speed in order to overcome challenges. Amazon, IKEA, L'Oréal, Unilever and many IT companies have used AI-powered recruitment platforms to improve their talent acquisition processes. The systems mentioned

include Robot Vera, Chabot called Mya, and HireVue Assessments.

AI technologies are becoming essential in the recruitment process, enhancing efficiency and aiding in the selection of candidates from a vast number of profiles and applications (Sekhri & Cheema, 2019)[30]. These tools excel in helping create unbiased job descriptions that are impartial and gender-neutral, attracting top candidates (Rab-Kettler & Lehnervp, 2019). Van Esch and Black (2019)[28] reported that AI firms such as Textio use AI technology to help consumers personalise the wording and content of job advertisements and descriptions. L'Oréal used AI technology to adjust the advertising's sexist wording in order to attract a more diverse pool of candidates (Sharma, 2018)[32]. The Applicant Tracking System (ATS), powered by artificial intelligence, screens candidates by identifying and assessing keywords to align them with appropriate job openings. AI-powered Chabot's are increasingly being used in the employment process. Applicants may interact with these Chabot's in real-time via various channels such as text, email, and social media, and get answers to their inquiries 24/7 (Upadhyay and Khandelwal, 2018)[27]. These bots can understand and interact with people in a human-like way using natural language processing, including contextual terminology, shorthand, emotions, and more (Nawaz & Anjali, 2019)[33]. Olivia, an AI assistant developed by Paradox, may gather information about a candidate's talents, knowledge, and credentials via text messages and interactions on social media (Van Esch & Black, 2019)[28]. Video chat analysis is one such tool propelled by artificial intelligence (Fernandez & Fernandez, 2019). Users can configure the system to evaluate a variety of interviewee characteristics, including but not limited to their age, illumination, tone of voice, cadence, mood, behaviour, eye contact, and emotion.

Typesof AI-based recruitment strategies– resume screening and candidate matching:

Chatbot's:

Chabot's are a kind of conversational artificial intelligence that are able to share information about the firm and the position with those who are looking for work. With the assistance of Chabot's, candidates may get their questions addressed, interview dates scheduled, and comments made on their applications. According to Black and van Esch's research from 2020, Chabot's are very useful for high-volume recruitment operations because of their ability to handle a large number of applications at the same time. It is possible that recruiters might also profit from Chabot's since they automate tasks that are not only important but also tedious, such as providing answers to frequently asked questions (Zel & Kongar, 2020)[35]. The effectiveness of Chabot in recruiting has been the subject of several studies. As an instance, Koivunen et al. (2022)[36] conducted a study that investigated the use of Chabot in the process of recruiting employees for a variety of different types of organisations. According to the findings of the study, Chabot's enhanced the candidate experience by providing prompt and correct responses to the inquiries posed via the application process. According to the findings of the study, Chabot's made the lives of recruiters simpler, which allowed them to devote their attention to more complex tasks such as analysing prospects and conducting interviews. However, there are restrictions that apply to the use of Chabot's in the process of hiring new employees. The possibility that Chabot's does not possess the resources necessary to answer personally to the queries made by each applicant is a significant disadvantage that may have a negative influence on the experience that they have. When it comes to judging less tangible but no less important parts of a candidate's character, Chabot's may not be able to provide accurate results. This is another disadvantage of the system.

Forecasting tools:

In order to foretell potential results, predictive analytics employs data mining and ML techniques. By assessing a candidate's previous

actions and results, predictive analytics could help find the best fit for an open position. An applicant's likelihood of accepting or rejecting a job offer within a certain time frame may be anticipated with the use of predictive analytics (Mehta et al., 2013)[37]. The use of predictive analytics in HR has been the subject of many academic evaluations. A decision assistance system for big companies' recruiting screens was developed by Mehta et al. (2013)[37]. This method is designed to help human resources professionals find qualified individuals who are more likely to accept a job offer and stay for a long time. To do this, we combine a keyword matching algorithm with several bipartite ranking algorithms trained on past actions with univariate loss to customise candidate rankings depending on different parameters. The recruiting team gets a full ranking list via a user-friendly website with filters to assist them choose the best candidates. The authors demonstrate the method's efficacy by examining measures that demonstrate enhanced recruiting efficiency with reduced interview counts, based on data collected from a major organisation over a long period of time. By looking at prior pre-employment data, they may pinpoint candidates with a high turnover rate. The method has been successfully used by a large, internationally linked company. Nevertheless, there are certain constraints on the use of predictive analytics to the hiring process. The inability of predictive analytics to account for factors like cultural fit and the candidate's capacity to work in a team is a big drawback. Predictive analytics may have the potential drawback of being too rigid to adapt to shifting worker dynamics or business requirements.

Automation-related strategies

Machine learning algorithms may be programmed to sort resumes according to predefined criteria, allowing for the discovery of the best possible applicants. In order to determine whether a candidate is a good fit for a particular position, machine learning algorithms may be trained on massive resume databases. Additionally, algorithms based on machine learning have the potential to detect and eradicate biases that occur throughout the hiring process (Roy et al., 2020)[38]. The use of machine learning algorithms to the recruitment process has been studied by several scholars. The main goal of the study carried out by Schleder et al. (2019)[39] was to discover strategies for extracting useful information from the vast quantities of raw data produced by cutting-edge computational and experimental techniques. Materials scientists use these methods to sift through vast datasets in search of meaningful patterns and correlations. Density functional theory was studied as an example of an approach for electronic structures. The writers continued by discussing the high-throughput approach, which is used to produce massive volumes of data. The next topic was data-driven ways for extracting information from the produced data. Data mining, machine learning, and data filtering are all examples of methods that fall under this category. According to the research, machine learning algorithms have no trouble sifting through the vast amounts of complicated data used in materials science in search of patterns and correlations. The development of novel materials with improved characteristics may be facilitated by the recent advent of computational materials research methods, which have the potential to reveal hidden complexity. To be fair, the study did highlight some of the challenges, obstacles, and possible future directions of this fascinating new area of inquiry.

The efficacy of ai-powered recruitment approaches:

Several academics have examined the efficacy of recruiting tactics that use AI. Research by Johnson et al. (2020)[40] sought to investigate how artificial intelligence (AI) and electronic human resource management (eHRM) may help the hotel and tourism sector with its workforce issues. The study's stated goal was to have a conversation on how AI-powered e-selection and e-recruitment platforms may aid businesses in the sector with retention rates, turnover prevention, and overall efficiency. This was accomplished by studying the hotel and tourism sector through

the lenses of electronic human resource management (eHRM), artificial intelligence (AI), staff recruiting, and employee selection. Improving recruitment and selecting results was one of the many topics covered in the research, which also offered insights into the industry's potential uses of eHRM and AI. According to the study's results, the hotel and tourist industry's hiring practices might be drastically altered with the use of electronic human resource management systems and artificial intelligence. While eHRM and AI may provide valuable insights, it is crucial to make sure that workers are happy with the choices taken and that the results benefit both the organisation and its employees.

The purpose of Mehrotra and Khanna's (2022)[41] research was to determine how companies feel about HRM automation and how far recruiters may take the usage of AI in the hiring process. The purpose of the research was to shed light on how the dynamic and competitive corporate environment is influencing human resource procedures and functions in the age of digitalization. Four IT industry professionals were interviewed in semi-structured interviews to provide primary data for the research, which used a theme analysis technique. In order to help recruiters and HR managers take advantage of new technological advancements that save costs, the research sought to provide practical insights into the areas of artificial intelligence (AI) installation and management. According to the findings, AI can help recruiters find qualified candidates, and HR departments are becoming more open to the idea of using automation in HRM. The report emphasises how many HR tasks and processes are being transformed by digitalization, and how AI has the ability to improve these processes and make them more user- and customer-friendly. When thinking about artificial intelligence (AI) in the context of HRM, recruiters and HR managers may benefit greatly from the study's overall findings. Also, Chabot's' efficacy can be dependent on the Chabot's design and the calibre of the answers given to applicants. Chabot's are computer programmes that can mimic human speech. When hiring new staff, Chabot's may handle applicant inquiries, interview scheduling, and feedback. The efficiency of the Chabot is greatly influenced by its design. Candidates may get frustrated and have a negative experience with the Chabot if it is not well-designed. In a same vein, Chabot's efficacy is highly dependent on the respondents' quality of answers. Candidates could have a negative experience if the answers are misleading or do not provide any useful information.

Drawbacks of AI-powered hiring methods:

While AI-based recruiting tactics may have certain advantages, it's important to keep in mind that they also have some limits. A major drawback of AI-based recruiting tactics is that they could miss certain important details that influence a candidate's effectiveness on the job, such how well they mesh with the company culture or how well they collaborate with others. Another drawback is that biased data used to train AI-based recruiting algorithms might lead to their continued use. The failure of AI-based recruiting tactics to include all important elements influencing a candidate's effectiveness on the job is one of their main drawbacks. Artificial intelligence systems could struggle to determine, for instance, if a candidate is a good cultural fit or has good teamwork skills. These aspects are crucial to success on the job, but they're not always easy to put a number on. As a result, hiring tactics that are entirely dependent on AI run the risk of ignoring competent applicants who do not fit the algorithm's predefined requirements. The use of AI-based recruiting algorithms trained on biased data poses the additional serious risk of bias persistence, which is another major issue with these approaches. The data utilised to train AI systems determines their impartiality. In the case of candidate selection, the AI will maintain its bias if trained on biased data. Gupta et al. (2021)[18] aimed to find out if and how people's scepticism of AI-generated biased suggestions is impacted by their self-reported national cultural values. Worries that recommender systems would disproportionately affect marginalised and

vulnerable groups, especially in terms of sustaining and worsening gender and racial prejudices, prompted this research. To fill this informational deficit, the researchers surveyed 387 American adults and looked at how cultural norms like collectivism, masculinity, and uncertainty avoidance may influence people's propensity to challenge biased AI suggestions. A quantitative poll including topics like cultural values and AI scepticism was part of the methodology used in this investigation. This study's results show that people who follow national cultural norms like collectivism, masculinity, and ambiguity avoidance are more prone to doubt AI's biased suggestions. Our knowledge of how cultural values impact AI scepticism stemming from perceived bias is enhanced by these findings, which add to the ongoing academic discussion on the need of holding AI responsible. Policymakers and AI developers might use the study's findings to better understand the murky relationship between cultural values and AI. To fight hiring bias, businesses should train their AI systems using diverse and representative data. To provide peace of mind, they should track their results to make sure AI-powered hiring practices aren't fostering prejudice.

Concerns relating to ethics:

Although there are several advantages to using AI-based recruiting tactics, companies should be mindful of the ethical considerations that come with them. Hunkenschroer and Luetge (2022)[5] argue that organisations may improve their recruiting procedures using AI technology while minimising hazards and ethical problems if they take proactive measures to protect privacy and fairness. Data collection and analysis are key components of AI-based recruiting tactics. This data often includes sensitive information like as applicants' names, addresses, and employment histories. Cyber-attacks or exploitation of this data might have serious consequences, thus organisations must take precautions to keep it securely and prevent unauthorised access (Du & Xie, 2020)[43]. Candidates also have a right to know who is collecting and using their personal information. Consequently, businesses should be forthright with applicants about the data they gather and should lay out their privacy policies and security procedures in a clear and understandable manner. Fairness is another important ethical consideration when it comes to AI-based recruiting tactics. Some groups of applicants may continue to face prejudice or discrimination since AI systems have the potential to be built with inherent prejudices. For example, according to Wei and Zhou (2022)[44] and Sari et al. (2023)[45], AI algorithms may imitate biased hiring practices if they are trained on data that includes biased information, such as gender or ethnicity-based hiring choices in the past. Organisations may avoid these problems by being objective and fair in their hiring practices. Training AI algorithms on diverse and representative data sets is one way to prevent prejudices from being perpetuated; another is for the recruiting team to routinely evaluate the algorithm's output for signs of bias and to fix them if found.

Primary applications of artificial intelligence concerning recruitment:

A tool for hiring watson from IBM:

Clients' current application tracking systems may be easily integrated with Talent Suite, an add-on product. The goal is to use AI skills to make the hiring process better. Using this software, businesses are able to better find applicants whose backgrounds and expertise are a good fit for the vacant positions. In this way, hiring managers may focus on the most promising job postings and candidates. Predictive recruiting, which uses data analysis to determine which individuals have the most potential for advancement and success in the position, is another important characteristic. Human recruiters may overlook important details if they didn't have this data. As a whole, Talent Suite uses AI to make human recruiters' jobs easier. The goal of the application is to improve the efficiency, equity, and speed of the recruiting process by integrating with the customers' current HR operations.

AI-based video interviewing tolls used by unilever:

A revolutionary step forward in the hiring process might be video interviews. As a result, you won't have to deal with the hassle of applicants missing or cancelling planned calls. Rather of wasting time playing phone tag, recruiters may merely screen candidate's live using video chat. Also, prospects save a tonne of time and effort since they don't have to go for the first in-person interview. Virtual reality makes it all possible. Video interviews are a win-win for all parties involved; they streamline and enliven the employment process. Employers are able to gauge potential employees with the help of that priceless first face-to-face encounter. Plus, potential employees may reach out to the business without leaving their current environment. Simplifying scheduling and getting to know artists over video chat is a win-win situation. When it comes to contemporary, candidate-friendly recruitment, this real-time method is where it's at.

Hilton is using AI to find new employee:

The Hilton Hotels group has opted to use artificial intelligence to improve its hiring process. What became of it all? Quite remarkable. Now they scan resumes and applications using automated methods. Hilton has seen a forty percent increase in recruiting after using this technology! The time it takes to replace vacant positions has been reduced by an astounding 90%, which is even more insane. This is the stuff of star-studded careers being accelerated. Hilton is able to swiftly identify excellent applicants and contact them thanks to the AI. They are able to hire the most qualified candidates and get them started on the job much more quickly as a result of this. The AI recruitment strategy is obviously successful. The Hiltons were able to increase their recruiting pace without lowering the quality of their candidates. Recruiters may concentrate on securing deals with top applicants while technology takes care of the mundane tasks. By combining human and machine intelligence, they have shown that it is possible to attract and engage the best candidates. This type of tech-driven (yet people-centered) strategy should be adopted by more businesses.

AI'S INFLUENCE ON HIRING PROCEDURES:

Aik, Neha (2023) when it comes to recruiting new employees, AI has truly changed the game. More and more businesses are using Chabot's and other AI technologies to communicate with job applicants, handling their inquiries and setting up interviews. It's very remarkable! In addition, these machines can sift through applications much more quickly than a human could, identifying candidates who seem to be a suitable fit for available positions. We love it because it eliminates prejudice in the hiring process; AI doesn't care whether you're young or old, male or female; it just considers if you possess the necessary skills and background for the position. Plus, it eliminates a lot of administrative work for the recruiters, freeing them up to concentrate on in-person interviews. Computer programmes powered by AI are now capable of crafting job advertisements and recommending them to potential applicants. This recruiting thing is obviously taking the company in a technological direction. However, at this time AI cannot fully replace human beings. With a large number of candidates to process, a personal touch is still necessary. Additionally, seasoned recruiters are still required to carry out the crucial interviews and determine whether a company is a good cultural match. We do not see a future in which AI bots initiate conversation with applicants independently. We do believe that AI is radically altering the way we evaluate resumes and the criteria used to get the first round of screening. Since algorithms now prioritise these factors, the focus has shifted to keywords and quantifiable talents. So, technology is great when utilised properly, but it shouldn't decide everything when it comes to recruiting. Even with all the progress made in the realm of high-tech recruiting, there are still certain caveats and restrictions to be aware of. However, in general, we can state that it has significantly

improved and expedited the first phases of attracting job seekers.

When it comes to selecting new employees, AI has revolutionised the interview process. Artificial intelligence systems may sift through resumes and set up interviews with candidates who come closest to meeting the job requirements. Instead of letting them wait, this expedites the process of getting qualified prospects in front of the recruitment team. Joy D'cruz (2023)[47]currently, some hiring managers choose AI technologies for candidate screening over human reviewers due to the fact that AI reveals novel assessment techniques and data points that people would overlook. This information is current as of 2023, when recruitment is ongoing. In order to determine whether a person is a good match, the AI considers factors such as their speech patterns, bits of their history, and other data. More than half of the organisations are increasing their investments in these AI recruiting assistants, according to the report. While 55% of businesses are increasing their investment in AI-powered automated recruitment methods, it's crucial to remember that AI may still perpetuate pre-existing biases in poorly cleaned algorithms or training data.

Discussion

Both the actors (recruiters) and the applicants (candidates) stand to benefit from AI, according to the first theme. Nevertheless, the players using AI in recruiting will not benefit from its most notable features until they get a better understanding of what AI is and how it operates. Actors should also know that AI hiring is open, equitable, user-friendly, and provides instant feedback. Efficiently completing the application process is facilitated by it, and applicants get personalised feedback—both good and negative—through it. Both parties are motivated to use AI for recruiting because of the timely, constructive criticism that candidates get, which helps them to enhance their application and abilities. In the meantime, HR managers may take on more advisory and leadership roles while AI handles the repetitive, tedious, and menial chores of CV screening. Managers may put their energy into cultivating relationships, nurturing talent, retraining employees, and embracing diversity in the workplace. The actors need to know that the quality of the data used to train the algorithm is the most critical factor in the success of AI-based recruiting. The algorithm's ability to find and hire top talent depends on the quality of the data it is fed. Being forthright about the algorithm that will be employed also helps in building confidence among candidates by showing that the process is fair and transparent. Additionally, AI allows recruiters to sift through mountains of social media data in search of a candidate's character traits. Human recruiters are still necessary to evaluate applicants for the correct combination of sensitivity and emotion, even when AI can analyse their behaviour and facial expressions.

The AI position focuses on the impact of AI on selection and recruitment, highlighting the primary advantages of AI in HR. Artificial intelligence (AI) may provide effective ways to acquire suitable talent and eliminate any human biases in the recruitment screening process. AI algorithms have the capacity to mitigate human biases by ignoring individual traits like gender, race, name, and educational history. It assesses candidates based on the information they offer, including their credentials, competencies, and experience. AI is grounded on facts and is not affected by prejudices or emotions. Data sets promoting diversity and inclusion undergo unbiased assessment. AI systems may create a psychological profile of a candidate by evaluating their facial expressions and verbal inflections, offering insights into their emotional state and behavioural inclinations. In the future, it will help businesses choose people who not only possess the required abilities but also align with the company's culture and values by predicting their thought processes and behaviours. AI is streamlining the laborious but essential processes of finding, screening, interviewing, and selecting candidates, while also ensuring accurate information is given to new employees, leading to a transformation in the conventional

role of HR. To streamline the sourcing process, AI may assess applications, communicate with candidates individually, and schedule meetings between the two sides by reviewing the recruiters' schedules. AI can expedite the recruitment process by analysing vast volumes of data, use predictive analytics to identify patterns and relationships, and finally selecting the most qualified candidates. Some companies are seeing a decrease in employee turnover due to improved recruiting methods. This strategy aims to optimise the recruitment process by enhancing efficiency without compromising on quality. AI assists recruiters in efficiently handling large volumes of data promptly and accurately. AI-powered recruitment simplifies and automates the whole hiring process, from locating applications to on-boarding, saving time, money, and human effort. Recruiters can improve the application experience, attract top talent, and transform the recruitment process by using AI's data processing, decision-making, and quick feedback skills.

The final topic, "potential risk," explores challenges that might occur from using AI in the recruiting process. The main focus of this topic with AI is issues related to ethics, privacy, legality, and investment instability. Recruiters may have prior biases that influence their preferences for certain candidates throughout the recruiting process due to human bias. Although AI is being used to eliminate discrimination and promote transparency in the employment process, it still retains unconscious bias. AI's potential to perpetuate prejudice and bigotry arises from its dependence on extensive data and capacity to learn from many sources. This risk is heightened when the data used to train AI includes instances of bias or discrimination against certain groups. Srirang, Shweta & Manoj (2019) and Black & Van Esch (2019) highlighted that AI created in certain conditions might be biassed due to the corporation's prior acts or the programmer's unconscious prejudices. Even if all the qualifications for a job are fulfilled, an AI trained on a company's data that has shown a bias towards male candidates may nevertheless detect discrimination against women. AI's inability to empathise means it can only base its evaluations on given data and cannot be judged by human standards in assessing applicants based on attributes like gender, colour, or age. The data is used to discover a trend and then punish a candidate appropriately. Prejudice might be based on the candidates' gender, age, or race. Furthermore, the specific direction in which this pattern will exhibit bias and the mechanisms behind that bias are not always readily apparent. Amazon's machine learning system failed because it was biased against female candidates due to outdated data it was provided with in the past. Hence, thorough data preparation and analysis are necessary. Ensuring high-quality, error-free data is essential. Dijkkamp (2019)[48] states that providing the algorithm with inaccurate data would lead to an inaccurate output. The AI development organisation must be cautious in selecting high-quality datasets for training due to the abundance of low-quality and often free datasets, since obtaining full and reliable data might be difficult, costly, or restricted. The firm must be meticulous in training its AI using top-notch datasets to avoid developing a biased or low-quality AI, which might potentially harm the business.

Final point Adopting AI involves considering both the benefits and drawbacks. All stakeholders, including employers, candidates, the organisation, and external groups, need to collaborate in order to capitalise on the advantages and opportunities offered by AI. To create sharing platforms for exchanging knowledge and resources, participants need to be open-minded and interact with other parties. Savola and Troque (2019)[49] state that HR and IT departments collaborate to create innovative opportunities and values via the exchange of information and ideas. Organisations may enhance their performance and efficiency by using AI-driven solutions provided by a third-party software company. They may also get more knowledge about these tools and use that information to instruct its internal stakeholders on how to manage the technology. The firm's conventions and constraints hinder players from

sharing their experience with performers external to the company. Actors must be open and responsive to new knowledge to fully use AI technology. The performers must also acknowledge and collaborate with the machine after they have fully adopted this technology. People may feel uncomfortable and unwilling to engage with AI technology if they see the computer as assuming decision-making duties. Authors like Black, J. Stewart, and Patrick van Esch (2020)[50] have highlighted that the best results are obtained via collaboration between humans and robots. Humans and robots may collaborate to optimise decision-making without favouring one over the other.

Suggested recommendations for ongoing research

Following a review of the existing literature, which mostly focuses on broad possibilities, it is suggested that more research be conducted on the use of artificial intelligence in recruitment due to the fact that it has just emerged and has promise. Investigating the particular problems that are related with the use of this technology should be the primary focus of further research. Since most of the studies that have been done so far have concentrated on the perspective of the organisation, there is a need for more study to explore the perspective of candidates about the utilisation of AI-based hiring.

Conclusion and implication

Finally, by examining the advantages and disadvantages of AI in recruitment, readers will have a deeper understanding of the technology's evolution in recent years. This knowledge may assist recruiters in generating innovative solutions, assessing existing challenges, and capitalising on upcoming prospects. A literature study was conducted after a comprehensive analysis of the advantages and disadvantages of AI. The four primary themes were: the AI role, detailing the diverse applications and advantages of AI tools for recruiters and applicants; the actor role, illustrating how AI can enhance efficiency for users; potential risk, examining various systemic challenges to consider before investing; and adoption, identifying factors such as collaboration and knowledge acquisition to manage risks and leverage the benefits of this technology. Consider if HR professionals are capable of addressing the stated challenges. Given that robots can fully automate the recruiting process, what is the level of productivity associated with manual execution? Further research on existing systems should address these issues, in our view. This research helps assess the practicality and feasibility of integrating AI into the recruiting process. It also identifies what to expect from AI and what issues need to be resolved before its deployment. Furthermore, this thesis may inspire other scholars to explore this subject in greater depth and maybe discover new research opportunities.

Reference

1. Ahmed, D. A., Ibrahim, M. A., & Saeed, Y. J. (2023). The Role of Information Management Systems in the Implementation of the Digital Economy Development Strategy. International Journal of Professional Business Review, 8(5), e01419–e01419. https://doi.org/10.26668/businessreview/2023.v8i5.1419
2. Budhwar, P., Malik, A., De Silva, M. T. T., & Thevisuthan, P. (2022). Artificial intelligence – challenges and opportunities for international HRM: a review and research agenda. The International Journal of Human Resource Management, 33(6), 1065–1097. Tandfonline. https://doi.org/10.1080/09585192.2022.2035161
3. Ore, O., & Sposato, M. (2021). Opportunities and risks of artificial intelligence in recruitment and selection. International Journal of Organizational Analysis, 30(6). https://doi.org/10.1108/ijoa-07-2020-2291
4. Chen, Z. (2022). Collaboration among recruiters and artificial intelligence: removing human prejudices in employment. Cognition, Technology & Work. https://doi.org/10.1007/s10111-022-00716-0

5. Hunkenschroer, A. L., & Luetge, C. (2022). Ethics of AI-Enabled Recruiting and Selection: A Review and Research Agenda. Journal of Business Ethics, 178(4). https://doi.org/10.1007/s10551-022-05049-6

6. Tippins, N., Oswald, F., & McPhail, S. M. (2021). Scientific, Legal, and Ethical Concerns About AI-Based Personnel Selection Tools: A Call to Action. Personnel Assessment and Decisions, 7(2). https://doi.org/10.25035/pad.2021.02.001

7. Yam, J., & Skorburg, J. A. (2021). From human resources to human rights: Impact assessments for hiring algorithms. Ethics and Information Technology, 23. https://doi.org/10.1007/s10676-021-09599-7

8. Schryen, Guido (2015). "Writing Qualitative IS Literature Reviews—Guidelines for Synthesis, Interpretation, and Guidance of Research." Communications of the Association for Information Systems, vol. 37.

9. Webster, J., and Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review. Management Information Systems Quarterly. Vol.26, No.2, pp.xiii-xxiii

10. Vom Brocke, J., Simons, A., Riemer, K., Niehaves, B., Plattfaut, R., & Cleven, A. (2015). Standing on the shoulders of giants: Challenges and recommendations of literature search in information systems research. Communications of the Association for Information Systems, 37(1), 205-224

11. Templier, M., & Paré, G. (2015). A framework for guiding and evaluating literature reviews. Communications of the Association for Information Systems, 37(1), 112-137

12. Okoli, C. (2015). A guide to conducting a standalone systematic literature review. Communications of the Association for Information Systems, 37(43), 879-910

13. Stoilkovska, A., IIieva, J. & Gjakovski, S (2015). Equal employment opportunities in the recruitment and selection process of human resources. UTMS Journal of Economics, 6(2), pp.281-292.

14. Kamran, Asif, et al(2015). "Analysis of the Recruitment and Selection Process." The Ninth International Conference on Management Science and Engineering Management, Advances in Intelligent Systems and Computing 362.

15. Almajthoob, A. M. H., Hamdan, A., & Hakami, H. (2023). The Effectiveness of Applying Artificial Intelligence in Recruitment in Private Sectors. Digitalisation: Opportunities and Challenges for Business, 631–641. https://doi.org/10.1007/978-3-031-26953-0_58

16. Cappelli, P., Tambe, P., & Yakubovich, V. (2018). Artificial Intelligence in Human Resources Management: Challenges and a Path Forward. SSRN Electronic Journal, 61(4). https://doi.org/10.2139/ssrn.3263878

17. Singh, R., Sharma, P., Foropon, C., & Belal, H. M. (2022). The role of big data and predictive analytics in the employee retention: a resource-based view. International Journal of Manpower, ahead-of-print(ahead-of-print). https://doi.org/10.1108/ijm-03-2021-0197

18. Gupta, A., & Mishra, M. (2022). Ethical Concerns While Using Artificial Intelligence in Recruitment of Employees. Business Ethics and Leadership, 6(2), 6–11. https://doi.org/10.21272/bel.6(2).6-11.2022

19. Zimmermann, T., Kotschenreuther, L., & Schmidt, K. (2016). Data-driven HR - Resume Analysis Based on Natural Language Processing and Machine Learning. ArXiv:1606.05611 [Cs], 1(2). https://arxiv.org/abs/1606.05611

20. Kaplan, Andreas, and Michael Haenlein (2019). "Rulers of the World, Unite! The Challenges and Opportunities of Artificial Intelligence." Business Horizons,

21. JARRAHI, M. H (2018). Artificial intelligence and the future of work: Human-AI symbiosis

in organizational decision making. Business Horizons, 61, pp. 577-586.

22. Russell, Stuart, and Peter Norvig(2010). Artificial Intelligence: A Modern Approach. New Jersey, Pearson.
23. Kaplan, Andreas, and Michael Haenlein (2019). "Siri, Siri, in My Hand: Who's the Fairest in the Land? On the Interpretations, Illustrations, and Implications of Artificial Intelligence." Business Horizons, vol. 62, no. 1, pp. 15–25.
24. Webster, J., and Watson, R1. Ved, S., Kaundanya, N.S. & Panda, O.P. (2016). Applications and Current Achievements in the field of Artificial Intelligence. Imperial Journal of Interdisciplinary Research, 2(11), 932-936
25. Raub, McKenzie (2018). "Bots, Bias, and Big Data: Artificial Intelligence, Algorithmic Bias, and Disparate Impact Liability in Hiring Practices." Arkansas Law Review, vol. 71, no. 2.
26. Stefano A. Bini & MD (2018). "Artificial Intelligence, Machine Learning, Deep Learning, and Cognitive Computing: What Do These Terms Mean and How Will They Impact Health Care?" The Journal of Arthroplasty, vol. 33, no. 8, pp. 2358–2361.
27. Upadhyay, Ashwani Kumar, and Komal Khandelwal (2018). "Applying Artificial Intelligence: Implications for Recruitment." Strategic HR Review, vol. 17, no. 5, pp. 255–258.
28. van Esch, Patrick, and J. Stewart Black (2019). "Factors That Influence New Generation Candidates to Engage with and Complete Digital, AI-Enabled Recruiting." Business Horizons, vol. 62, no. 6, pp. 729–739.
29. Michaelides, Maria P (2018). "The Challenges of AI and Blockchain on HR Recruiting Practices." The Cyprus Review, vol. Vol. 30, no. No. 2.
30. Sekhri, Alka, and Dr. Jagvinder Cheema (2019). "The new era of HRM: AI reinventing HRM functions." International Journal of Scientific Research and Review, vol. 07, no. 3.
31. R¹b-Kettler, Karolina, and Bada Lehnervp (2019). "Recruitment in the Times of Machine Learning." Management Systems in Production Engineering, vol. 27, no. 2, pp. 105– 109. Accessed 28 May 2020.
32. Sharma, A. (2018 August 16). How AI reinvented hiring practice at L'Oreal. People Matters
33. Nawaz, Nishad, and Anjali Mary (2019). "Artificial Intelligence Chatbots Are New Recruiters." International Journal of Advanced Computer Science and Applications, vol. 10, no. 9.
34. Fernández, Carmen, and Alberto Fernández (2019). "AI in Recruiting Multi-Agent Systems Architect Re for Ethical and Legal Auditing." The Twenty-Eighth International Joint Conference on Artificial Intelligence (IJCAI-19),
35. Zel, S., & Kongar, E. (2020). Transforming Digital Employee Experience with Artificial Intelligence. 2020 IEEE / ITU International Conference on Artificial Intelligence for Good (AI4G). https://doi.org/10.1109/ai4g50087.2020.9311088
36. Koivunen, S., Ala-Luopa, S., Olsson, T., & Haapakorpi, A. (2022). The March of Chatbots into Recruitment: Recruiters' Experiences, Expectations, and Design Opportunities. Computer Supported Cooperative Work (CSCW). https://doi.org/10.1007/s10606-022-09429-4
37. Mehta, S., Pimplikar, R., Singh, A., Varshney, L. R., & Visweswariah, K. (2013). Efficient multifaceted screening of job applicants. Proceedings of the 16th International Conference on Extending Database Technology - EDBT '13. https://doi.org/10.1145/2452376.2452453
38. Roy, P. K., Chowdhary, S. S., & Bhatia, R. (2020). A Machine Learning approach for

automation of Resume Recommendation system. Procedia Computer Science, 167, 2318– 2327. https://doi.org/10.1016/j.procs.2020.03.284

39. Schleder, G. R., Padilha, A. C. M., Acosta, C. M., Costa, M., & Fazzio, A. (2019). From DFT to machine learning: recent approaches to materials science–a review. Journal of Physics: Materials, 2(3), 032001. https://doi.org/10.1088/2515-7639/ab084b
40. Johnson, R. D., Stone, D. L., & Lukaszewski, K. M. (2020). The benefits of eHRM and AI for talent acquisition. Journal of Tourism Futures, ahead-of-print(ahead-of-print). https://doi.org/10.1108/jtf-02-2020-0013
41. Mehrotra, S., & Khanna, A. (2022). Recruitment Through AI in Selected Indian Companies. Metamorphosis: A Journal of Management Research, 097262252110662. https://doi.org/10.1177/09726225211066220
42. Gupta, M., Parra, C. M., & Dennehy, D. (2021). Questioning Racial and Gender Bias in AIbased Recommendations: Do Espoused National Cultural Values Matter? Information Systems Frontiers. https://doi.org/10.1007/s10796-021-10156-2
43. Du, S., & Xie, C. (2020). Paradoxes of Artificial Intelligence in Consumer markets: Ethical Challenges and Opportunities. Journal of Business Research, 129. https://doi.org/10.1016/j.jbusres.2020.08.024
44. Wei, M., & Zhou, Z. (2022). AI Ethics Issues in Real World: Evidence from AI Incident Database. ArXiv:2206.07635 [Cs]. https://arxiv.org/abs/2206.07635
45. Sari, M. W., Aima, M. H., & Elfiswandi. (2023). The Effect of Creativity and Digital Literacy on Business Opportunities and Their Impact on Welfare Levels. International Journal of Professional Business Review, 8(5), e01675–e01675. https://doi.org/10.26668/businessreview/2023.v8i5.1675
46. Neha Naik (2023) How Artificial Intelligence Benefits Recruiting.
47. Joy D'cruz (2023) The Impact of Artificial Intelligence on Recruiting.
48. J. Dijkkamp (2019). The Recruiter of the Future, a Qualitative Study in AI Supported Recruitment Process.
49. Savola, Hannimari, and Bijona Troqe (2019). Recruiters Just Wanna Have…AI? Implications of Implementing AI in HR Recruitment.
50. Black, J. Stewart, and Patrick van Esch (2020). "AI-Enabled Recruiting: What Is It and How Should a Manager Use It?" Business Horizons, vol. 63, no.**(Endnotes)**