AI-Assisted Hiring Process and Older Workers: An Exploratory Study

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Abstract—This paper explored the concept of artificial intelligence (AI) and the growing effect it is making on the recruitment process. It looked into how artificial intelligence (AI) is affecting employers and applicants, especially in the early stages of the hiring process. Although there has been no academic literature on AI, it has been hailed as "game-changing for HR" by practicing recruiters. Companies have become under further strain to redefine themselves and update as a result of globalization, new technologies, and new social developments. Over the last two decades, there has been a growing movement in the business world to embrace Artificial Intelligence (AI) technologies [1]. Artificial intelligence (AI) recruiting tools, such as resume scanning and/or AI-powered video interviews, are becoming increasingly popular among businesses. This research looked at the impact of AI-assisted hiring on older adults and their plans to apply for employment in an AI-assisted recruiting program. This research aimed to address the perspective of Human Resources recruiting and selection, which is a part of HR management, on integrating AI solutions. This paper gives an impartial literature review that depicts the numerous authors' views on AI implementation, the potential, and the risks associated with AI in recruiting. It has been determined that AI offers recruiters promising options for optimizing the recruiting phase by automating time-consuming routine processes such as sourcing and interviewing candidates [1]. However, there have been concerns about the expense of developing such programs, as well as protection and other considerations. In this dissertation, certain questions are noted and addressed in detail. Since correcting for perceptions toward AI as well as social background, a one-year rise in age was correlated with a 5.8% drop in the probability of decisions to apply for positions dependent on AI-assisted recruiting processes [2]. The observations highlight concerns regarding older employees' workplace mobility restrictions and early retirement as a result of technical changes in the recruiting process.

I. INTRODUCTION

The development of the IT sector, which is influenced by the diffusion of technology and its implementations in other markets, serves as a reference point for Human Resource management in any organization. The need for specialized skill sets tend to outpace the availability of qualified applicants, resulting in a rise in the professional worker shortage. As a consequence, global talent rivalry has increased, and the conventional power dynamic in hiring has changed from employers/recruiters to candidates/employees [2]. Technology has already affected the procurement industry, lowering prices and increasing the efficiency in which applicants are recruited. However, according to the US Department of Labor, recruiting is just 16 percent successful in its current form [2]. If this is the case, the advent of AI offers the potential for major changes. These early developments are likely to affect the procurement and processing of recruits, which are the first steps of the recruiting phase.

The human resources staff, hiring managers, and private consulting companies are also under pressure to identify the best applicants for the position. As a result, businesses are devising innovative tactics to maximize their competitiveness – by incentives, increased salaries, and additional job advancement opportunities, among other things – to recruit and maintain desirable workers [3]. Companies are now actively invested in infrastructure to hire business talent. Artificial Intelligence, data processing, pattern matching, and keyword matching are some of the innovations that, according to market standards, are becoming increasingly important in human resource management. This paper aims to explore how AI-

based innovations are utilized during the recruitment and selection phase, as well as whether they aid in the recruitment of the best talent in the industry. The subject for this thesis shows how critical recruiting and selection using the new technologies is. An integrative literature review is undertaken to establish fresh insights on the subject due to a shortage of academic literature regarding AI's impact on the recruiting industry.

II. RESEARCH PROBLEM

The main problem that this explorative study aims at solving is to understand how artificial intelligence can have a significant impact on the recruitment process while taking into consideration the older workers. In a nutshell, the paper examines Artificial Intelligence and the increasing role it is expected to perform in the recruiting industry. The standard recruiting procedure, which includes a CV and interviews, is inefficient in the employment industry. According to a study conducted by the US Department of Labor and Gallup, this method is only 16 percent successful in identifying the best applicant for a role [4]. To address this issue, several businesses have implemented pre-employment interviews in which applicants are asked a series of questions. They are both accurate (accurate even when recorded) and true (relevant to work performance), but they take a long time for candidates to complete and lead to lower success rates. In particular, how would the advent of Artificial Intelligence affect managers and applicants for positions throughout the recruiting process? This includes everything from career posting to applicant quest to recruiting and evaluating applicants. The goal is to develop a recommended method for recruiters, both in-house and consulting firms, to make hiring in response to the industry's imminent shifts [5]. To address this query, the literature perspectives to assess the trends of the experience. The results of this primary research are based on the current literature on the topic. As a consequence, this paper concludes that AI approved recruiting process should be adopted. This process would necessitate major systemic and technical changes in recruiting practices, and it will help organizations to increase the quality and efficacy of their talent management strategies [6]. As a consequence, the standardized method of recruitment for positions would be switched from a trial-and-error approach to a test-for-success model.

III. LITERATURE REVIEW

A. What is artificial intelligence recruiting?

AI recruitment is the application of artificial intelligence, such as machine learning or statistical analytics, to the time-consuming or resource-intensive aspects of hiring. There are numerous AI recruiting resources available for determining a candidate's suitability for a position. In essence, these methods employ algorithms to decode data points from responses, and could include the following:
• Evaluation of facial movements, body language, and motions
• Review of voice and text feedback
• Actual willingness to do the work duties • Cultural compatibility and personality.

However, this is not the reason recruiters use AI. Recruiters and talent departments want to leverage artificial intelligence to simplify the recruiting process to make it quicker, more affordable, and simpler to handle large numbers of applicants[7]. Recruiters will use AI in the recruiting phase, from promoting and drawing candidates to forecasting candidates' work results. "Just as for the majority of the world's digital advertising, AI is assisting in determining who can see certain work descriptions and who will see which career marketing.
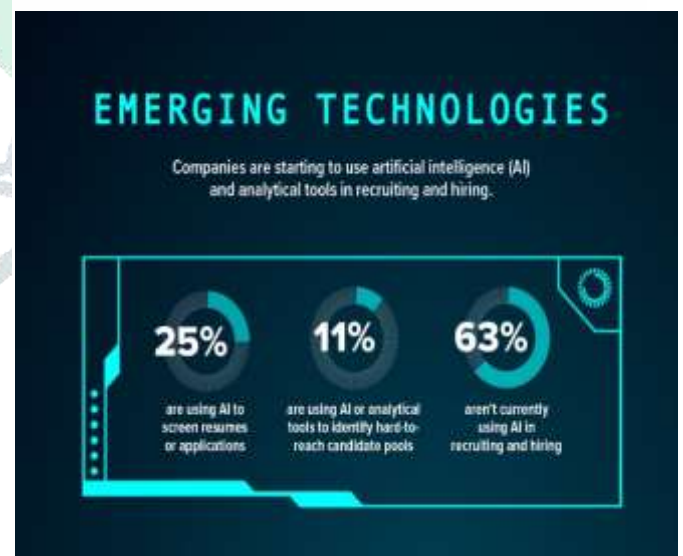

Fig i: Emerging technologies

B. Jobs platform using AI recruiting

Predictive AI isn't only used by a few outlier firms like HireVue. LinkedIn Recruiter, a common application that uses artificial intelligence to rate applicants, is used by Vox's HR team [7]. Similarly, the job-search site ZipRecruiter uses AI to pair candidates with local positions that may be a good fit, based on the

characteristics the applicants have shared with the platform — such as their identified qualifications, expertise, and position — and past experiences between similar candidates and potential employers [8,9]. For example, after applying for a few tutoring positions in emails will be received emails from the site promoting related jobs in the industry. Generally speaking, the organization claims that its Artificial intelligence has been educated on over 1.5 billion encounters between employers and candidates [9]. Platforms like Arya, which claims to have worked with Home Depot and Dyson, go much deeper, utilizing deep learning to find applicants based on data from a firm's internal databases, online career forums, social networking such as LinkedIn Facebook, and Twitter, as well as other publicly accessible pages, such as those on technical membership pages [9].

C. How does it work?

Arya says that it may also forecast when a person is going to quit his old job to take a new one depending on the data he receives about a prospect, including their promotions, transition between past positions and sectors, and the anticipated fit of a new career, as well as more general data on function and industries [10]. Another AI usage is to screen application documents, such as résumés and assessment, to decide which recruiting applicants to first meet. Such tools, according to the CEO and co-founder of Ideal, Somen Mondal, a scanning and matching product, do more than simply scan résumés for relevant searches [11]. Ideal, for example, will start to interpret and evaluate applicants' perspectives through their résumés, and then rate the candidates based on how well they complement an opportunity. Mondal, whose platform is used to test 5 million applicants every month, compares it to a recruiter Googling a business and asking about it [11].

However, AI does not always function in the background. If one applies for a position and then is sent a text message, they may be speaking with a recruiting bot. Chatbots developed by organizations like Mya who use natural-language recognition will help simplify the process of contacting former applicants regarding a new vacancy at a business or determining if a candidate satisfies a position's specific criteria — such as availability — obviating the need for human phone interviews. Mya, for example, will communicate with you through text, email, and messaging apps like Facebook and WhatsApp [12].

D. AI recruitment for Older workers

According to the Economic Policy Institute, almost three-quarters of staff aged 65 and older were unable to work remotely during the disease outbreak, putting them at a greater risk of contracting serious COVID-19 infections [12]. Furthermore, the US Bureau of Labor Statistics reported that rates of unemployment for Americans who are 55 and older increased to 26.4 percent from 14 percent last September, compared to a rise to 18.2 percent from 11.3 percent beyond the group [12]. Experts say that so-called conversational AI will help ensure the welfare of older workers when they return to work during the pandemic, without ageism creeping in. It hires people based purely on their abilities, attributes, and success metrics, not on their outward appearance. As a consequence, the playing floor for millions of aging jobs will be leveled, including the fact that recruiters often neglect their wealth of expertise and abilities [13]. Deep analytics may be used to see how those work descriptions are filtering out older applicants at the top of the recruiting funnel, where sexism is more common, then making the appropriate changes. Indeed, stereotypes regarding an older person's ability to grasp new technology and navigate a fast-paced workplace environment or manual labor can emerge during an in-person interview [13].
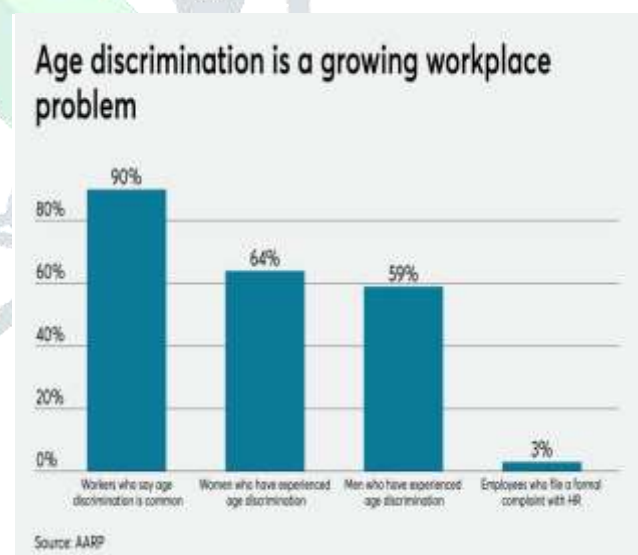

Fig ii: Impacts of AI on old workers

E. The benefits of AI in recruitment

More than half of talent management executives note, that "the toughest aspect of recruiting is the identification of the best people from a wide pool of applicants." This is made more difficult by the fact that 56% of the surveys said they anticipate the number of their recruitments to grow, but 66% of recruiting teams

will either remain or diminish [13]. In other words, businesses are recruiting more employees while having fewer human resources.

1. *Improve the efficiency of recruiters*

AI and automation are a vital aspect of recruiting funnel sorting employee influx. Twenty-three hours of the recruitment period are needed for the traditional pre-employment review and selection process [14]. In a matter of seconds, an AI screening method will sift through thousands of applications and identify interested applicants. Another problem is that today's recruiters serve on competition in favor of candidates [14]. The talent competition is intense and companies need to do more to distinguish themselves. Recruiters are also essential to broaden their recruitment capacity to achieve more future new recruitments [15]. AI will also allow recruiters to reach past the initial submission stage. Recruiters may use AI software to filter applicants in, rather than out, based on insignificant characteristics. This expands the pool of available applicants.

2. *Enables remote recruitment*

Online work is becoming more popular, which means that remote recruiting is becoming more popular as well. It's becoming more popular for a company's employees to be dispersed across the globe. Automated online assessment software can help recruiters handle remote recruiting. If a recruiting committee is just interviewing with people or telephone displays around time zones, their recruitment pool becomes unreasonable [15]. New technology allows recruiters to easily evaluate each applicant's efficiency, irrespective of place and time spent.

3. *Allows recruitment on a scale*

Effective sourcing strategies are guiding a greater number of applicants through the recruiting funnel. Although recruiting teams profit from more recruits, the under-resourced teams are under more strain. It is difficult to scale traditional résumé and phone scanning [16]. Artificial intelligence-assisted recruiting systems streamline the operation [1]. This approach allows small teams to assess candidates on a large scale, in a matter of days rather than weeks, without sacrificing efficiency.

4. *Predicts the performance of candidates*

The best screening and interview methods outperform performance-predicting interviews. Users will reliably predict what suits their position according to the forum selected [16]. AI software may evaluate a simulated sales offer, call for customer services, coding competence, or presentation of strategies. Automatic interviews allow you better learn how candidates perform the work they care about.

5. *Provide a perfect environment for candidates*

Recruiters and applicants save resources by using online screening and interviewing methods. These methods eliminate the friction in programming interview telephone screening. Additionally, it enables applicants to apply for positions without interfering with their existing jobs. Furthermore, increased transparency and fast communication through automated tools enhance the recruiting process.

6. *Eliminates the bias*

There are several explanations why recruitment prejudices remain. It's mostly a matter of efficiency: human resources departments can obtain dozens of applications for a specific open role [16, 17]. It's challenging to offer each candidate's application the attention it deserves. As a consequence, often recruiters want to promote applicants of comparable credentials to existing workers. Many who have varying experiences or job experience would never have a shot.

AI has the potential to significantly impact how applicants are sorted into the recruiting funnel. One such algorithm enables human resources departments to interview 10,000 applicants in the period it takes a single recruiter to interview one [16]. An AI tool will test applicants depending on individual abilities instead of what their resume suggests, reviewing their qualifications more quickly and accurately than a human recruiter.

F. Challenges in recruitment application of AI

1. Data collection for AI will take time.

AI usually needs a huge amount of data to learn from. Machine learning algorithms are based on the effective imitation of human knowledge by thousands or even millions of data points. This can result in a lengthy deployment phase, depending on the provider. Algorithms that depend on internal results, such as analyzing the top performers, are both expensive and time-consuming [17]. This will also assist users in determining when to use the AI method at each point of the funnel. Since additional data is required, AI recruiting tools will best be used at the top of the funnel. Users would not just minimize the screening duration but will

guarantee that the outcome is bias-free and correct.

2. The best data to forecast results can be used

The critical issue when using AI software is this: am I feeding the algorithm the correct data, and is that data correctly predicting the outcomes I desire? The face-analysis is an indication of a questionable selection of data. There have been recent criticisms about this system, with observers concerned that the technologies which disproportionately penalize applicants and mask bias in how they evaluate suitable applicants for recruitment [17]. Additionally, modeling on best performers leads to stagnation and development. Instead of evaluating the performance, a technique that aims to recruit individuals with good performance eliminates diversity by encouraging current employees' 'look-alikes.' It is important to ascertain that the data that the provider is using to train the learning algorithm is correct. Importantly, AI recruiting can never take account of applicant age, gender, and ethnicity.

3. AI may amplify human bias

The main problem occurs in the multiplication or replication of human biases in certain AI methods used to interview applicants. One illustration is the famous example of Amazon scrapping its AI recruitment tool after it was shown to replicate the biases in human recruitment processes. The problem with this device wasn't with the technology; it was with the data that was being fed into the algorithm [17]. It is important to ensure the supplier knows the dangers of bias problems and provides a mechanism in which bias tendencies may be identified and mitigated.

IV. FUTURE IN THE U.S

In the next 20 years, 50% of all-American job opportunities may be filled by robotics and automation, per an Oxford University survey [18]. The US is on the brink of a huge change in the modern era. Robotics and deep learning have increased efficiency and boosted the growth of many countries. Financial services, transportation, security, and energy management have also benefited from the advancement of artificial intelligence (AI). High-speed networks and remote sensors link individuals and companies to the Internet of Things (IoT). With all this, there is a chance of a modern future that will enhance many people's lives. In recent decades, the labor market has been rapidly changing, with any breakthrough technology transforming our economy. Looking forward, digital technologies and artificial intelligence (AI) are chances to enhance consumer wellbeing and speed up economic recovery, but still running

the danger of large-scale shifts in the working population and society. The House Budget Committee will consider account of events on 10 September concerning AI technology and its possible advantages and pitfalls, economic impact, labor markets, and income disparities, as well as federal policy and budget ramifications [18].

V. ECONOMIC BENEFITS TO THE U.S

In recent years, Artificial Intelligence has introduced several new ways of doing tasks. It has completely changed the way we conduct things and how we go about doing them. Though it entails extra costs to infuse the procurement mechanism with AI, it would produce a more efficient recruiting pipeline, thus certainly having a beneficial influence on long-term return on money.

AI would not only eliminate the need for new recruiters, interviewers, or staff, but it would also guarantee that the correct person is placed in the appropriate new position the first time. They will cut attrition and save money on recruiting, signing incentives, and other costs related to the acquisition of new staff members by employing better workers. Worldwide sales for the AI sector could be more than $150 billion by 2020, but AI is projected to produce up to $13 trillion in financial development by 2030, equal to an extra 1.2 percent GDP growth per annum [19]. As we move forward, AI is capable of creating short-term uncertainty and labor-market transformation – not widespread unemployment, but a complex and unpredictable mix of job growth, job reduction, and enables the creation of jobs that we must prepare and manage to make sure that no jobs are lost.

VI. CONCLUSION

This research lets us gain insight into the importance and effect of AI in the recruiting process. The results suggest that artificial intelligence (AI) is transforming the recruiting landscape – and rightly so. Artificial intelligence (AI) was once thought to be a far-fetched phenomenon that modern generations will have a passing acquaintance with. For years now, traditionally presented resumes, inquiries, and cover letters have been in decline. Instead of using the United States Postal Service, career seekers are rapidly submitting these encapsulations of knowledge to recruiters and hiring managers through email and website

submission centers. Modern technology like AI is all around us today, which promises to transform every part of our life and how we live it. The workplace is undoubtedly not immune to AI's impact, both directly and indirectly. Establishing relationships is important in our environment. As we can build genuine partnerships with candidates, they are passionate about the ideals and ambitions of the business, their hires are engaged inherently in the company and encouraged to stay longer, enabling the organization to achieve more. It's probably no wonder that AI has been an incredibly important aspect of human existence at virtually any turn at this stage. There are no exceptions to recruiting and searching for employment. These AI systems are just as effective as the data they're trained on and the people who put them together. If a method of curriculum video screening is trained on statistical information such as resumes gathered from previously employed applicants, it shall inherit the conscious and unconscious interests of the recruitment managers who have established such evaluations. This strategy may help to find highly skilled, and stellar candidates

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