

The Impact of Artificial Intelligence on Recruitment

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Abstract:

Artificial intelligence (AI) technologies (natural language processing, machine learning, and computer vision) are rapidly gaining traction in the field of recruitment. Based on previous research, the author makes a review of the topic of the impact of artificial intelligence on recruitment in this paper. This article discusses the impact of AI on the entire recruitment process and all participants from different perspectives (such as candidates and recruiters, companies and society). The results of the study show that although there are still some candidates who are not adapting to the changes brought about by AI development on recruitment, these impacts of AI are generally very effective. In this discussion, this paper has the same position as most previous papers or books, believing that artificial intelligence has an irreplaceable position in the development of recruitment. What's more, replacing a significant portion of recruitment with AI can be considered an inevitable result. In this progress, the author also gives some advice about this topic which can help build a greater recruitment system and show great expectations for the future.

Keywords: Recruitment; AI; repetitiveness; experience feeling.

1. Introduction

With the rapid advancement of artificial intelligence technology, the corporate recruitment sector is undergoing an unprecedented transformation. Traditional hiring processes have long faced efficiency bottlenecks, subjective biases, and challenges in talent alignment. For instance, manual resume screening proved time-consuming and laborious, interview evaluations were constrained by geographical limitations and subjective judgments, making it difficult to

ensure precise job-person fit. The integration of AI, however, is reshaping every aspect of recruitment through automation, data-driven approaches, and intelligent decision-making. From resume analysis to interview evaluation, from talent matching to data-driven insights, AI not only significantly boosts efficiency but also promotes standardization and fairness in recruitment procedures, freeing HR teams to focus on strategic value creation. However, under the wave of technology, issues such as algorithmic bias, data security and human warmth have also

been debated. Opinions vary on how people use AI as a decision-making tool. But it must be said that its impact is far-reaching and complex. It not only brings tangible dividends of cost reduction and efficiency improvement for enterprises but also forces the industry to re-examine technical ethics and talent value. In the future, the symbiotic relationship between AI and human resources will continue to define the boundaries and possibilities of recruitment.

Specifically, the integration of AI has fundamentally transformed recruitment practices. During resume screening, AI utilizes natural language processing technology to analyze massive resumes within seconds, accurately extract key information such as educational background and skill tags, and automatically rank candidates based on job requirements. What's more, the impact of AI on recruitment is far more than improving efficiency. Its core value lies in reconstructing the science of "person-job matching". Behind this change is the dual desire of enterprises for "precision" and "efficiency", as well as the higher expectation of job seekers for fairness and experience.

2. The Positive Impact of AI on Hiring

2.1 Improving Recruitment Efficiency

Resume screening automation: Without AI assistance, people in charge of hiring must efficiently select recruitment channels (e.g., job boards, social media, campus recruitment) and craft targeted ads to attract qualified candidates. They then collect resumes, conduct preliminary screening based on job requirements, and ultimately select suitable candidates. Long-term employment in repetitive and unskilled work is likely to solidify the thinking mode, lack of innovation and flexibility. What's more, personal career development will also be affected, workers' competitiveness will decline, and they are at risk of being replaced and eliminated. However, these repetitive tasks are well suited to the working patterns of artificial intelligence. The AI system can process thousands of resumes in seconds, greatly saving time and labor costs. In this case, people don't even have to worry about having too much information, so they can hire on a larger scale. While the success rate of hiring has declined surely, it's just a few more seconds for AI but it is possible to find surprising talent through the recruitment channels which employees do not pay attention to.

Process automation: In the past, recruiters had to constantly stare at a computer or phone conversation box to make sure they could respond to a candidate's message in time. Meanwhile, At the same time, many candidates ask the same questions (such as salary range, interview time).

Although later upgrades to the job-hunting software will allow people to type less by using automated responses, these still need to be manually selected. AI chatbot automatically replies to nearly all the conventional inquiries of candidates, solves about 80% of the routine questions, and reduces a significant portion of communication costs.

Cross-regional recruitment is simplified: When both parties are in different regions, it is difficult to find a convenient time for the interview. In long-distance real-time calls, poor network conditions may lead to video stuttering, disconnection and other problems, which will affect the smooth progress of the interview. These coordination and communication issues, as well as hardware issues, can lead to increased time costs. But in the case of video interviews, AI tools support asynchronous interviews (candidates can record their answers at any time), which breaks the time and space constraints, making cross-border recruitment more convenient and more acceptable.

2.2 Optimizing the Accuracy of Person-Job Matching

Multi-dimensional data integration: When people want to know whether a candidate meets the requirements, they need to learn more about this person. However, it's obviously more accurate to get to know someone through multiple sources than just hearing the story told by himself/herself. In fact, collecting data is a time-consuming business, but much of the data and information is now connected to the Internet. As a result, AI not only analyzes resumes, but also connects to the Internet to access skill assessment platforms and social media data (such as LinkedIn feeds) to build a "skill portrait" of candidates.

Predictive matching: Based on historical recruitment data of enterprises (such as "common characteristics of successful employees") and existing AI tools and large models, AI algorithms can predict the performance of candidates after employment more accurately and improve the quality of recruitment. Scientists from the University of Michigan, Stanford University, and the commercial education platform MobLab have collaborated to develop a new artificial intelligence system named "Behavioral Basis Model" (Be.FM). This AI model represents one of the first specialized systems dedicated to human behavior prediction, simulation, and reasoning. The research findings have been published on the Social Science Research Network (SSRN) preprint server [1]. Meanwhile, improving recruitment quality can subsequently reduce training costs and shorten the adaptation cycle of employees, so that personnel rotation can be completed faster.

Dynamic job demand adaptation. Based on the Volatility, Uncertainty, Complexity, Ambiguity (VUCA) model

and the analysis of the current employment situation in society, people still need to pay full attention to volatility when looking at problems. AI is able to analyze industry trends and job skill requirements in real time, adjusts screening criteria, and avoids talent mismatch.

2.3 Reducing Subjective Bias and Improving the Fairness of Recruitment

Sensitive information: AI can automatically hide potentially biased information such as a candidate's gender, age or appearance when screening resumes, or change the weight of this information to be more based on skills and experience. What's more, the company can set different scoring criteria for different aspects of data according to different needs for the AI to make a unified judgment.

Structured assessment: The AI interview system uses a unified question template (such as "Please give an example of your experience in resolving conflicts") and scores based on preset dimensions (such as communication ability, stress resistance) to reduce the influence of interviewers' subjective preferences. At the same time, Jia Haiyan, director of the career teaching and research office at Beijing University of Civil Engineering and Architecture, said: "In our feedback reports on AI mock interviews, we found that many students had unnatural micro expressions such as frequent blinking and wrinkling their noses, which are easily detected by AI interviewers and will be deducted points" [2].

Data traceability and correction. AI decisions can be traced, and if a certain type of candidate is systematically excluded, the algorithm parameters can be optimized to correct the bias. Negotiator, an AI-powered interview preparation tool developed by OpenAI, utilizes ChatGPT to assist radiology graduates in preparing for professional job interviews. This study aims to evaluate the tool's relevance, clarity, alignment with competency standards, and its ability to enhance overall interview readiness for candidates from diverse educational and professional backgrounds. Furthermore, future research of this item will focus more on exploring personalization and broader applications, as well as its impact on real-world interview outcomes [3].

2.4 Improvement of Candidate and HR Experience

Improvement of Candidates' Experience: The AI chatbot responds to inquiries 24 hours a day, providing real-time feedback and reducing the frustration of "going into the sea after delivery". The author made a brief interview with 100 students from different majors (such as civil engineering, electrical engineering, music composition, financial

management, etc) who has graduated from the South China University of Technology and would like to find their jobs in 2025. Seventy-eight students said AI was involved in almost all the inchoate processes during the interview. Seventy-seven of the them praised the efficiency and communication of AI conversation recruitment, unlike traditional interviews that require a long wait for a response. In contrast, the remaining 22 students had to talk to HR all the way. Although they all thought their experience was not very bad, they all reported that a lot of messages sent out did not get feedback.

HR role restructuring: By shifting recruiters from "process implementers" to "strategic partners", they can spend more time on high-value work and increase career satisfaction. What's more, in the recruitment process, the data collated by AI can also better help the human resources department to follow up. For instance, by integrating social media data with AI, HR departments can create personalized incentives for people with different needs. Additionally, these data can also help to establish and maintain good labor relations, deal with various relationship issues between employees and enterprises, and ensure the harmony and stability of enterprises.

3. The Key Variables Affecting the Difference

3.1 Differences in Enterprise Characteristics

Enterprise scale. Large companies are more likely to invest in high-end AI tools. In today's digital age, emerging technologies are transforming recruitment strategies and practices for large enterprises. From artificial intelligence and machine learning to blockchain and virtual reality, these innovations streamline hiring processes and enable data-driven decision-making. Major corporations increasingly focus on exploring cutting-edge technologies [4]. In addition, large enterprises often have more advantages in core technologies and specialized R&D teams to be responsible for the innovation of these sectors, so they are more competitive in recruitment. On the contrary, small and medium-sized enterprises rely on standardized tools (such as intelligent matching of Boss Zhipin), and the effect is limited. Some large companies will take the opportunity to sell their own recruitment software to small and medium-sized enterprises for profit. In fact, some large enterprises have developed artificial intelligence recruitment software based on their own company's current situation and characteristics. But different types of enterprises have their different recruitment characteristics. As a result, it is often not good to copy them rigidly.

Type of industry. As mentioned above, different types of industries often require different recruitment patterns. AI applications are mature in technology-intensive industries (e.g., Internet and finance). For example, people who work in information technology are themselves more familiar with AI. Both from the perspective of the applicant and the company, they will have more faith in the power of AI and invest more [5]. In contrast, traditional industries (such as manufacturing) focus on basic screening and have low acceptance of complex evaluation tools.

3.2 Differences in Candidate Characteristics

Age differences. The younger generation is highly receptive to AI interviews. Social media can be used to some extent as a recruitment strategy for studying the mental health of young people, and many young people themselves accept the conclusions drawn by AI [6]. Due to lack of understanding, those born in the 1980s and older are more likely to communicate face-to-face (for fear of technology misjudging them). Moreover, there is relatively little data that can be captured by AI when they are uploaded to the Internet, so there is no way for AI to refer to them well.

Job level differences. The research findings demonstrate that organizations should establish a collaborative recruitment environment where AI handles repetitive tasks while humans focus on roles requiring emotional intelligence. This approach enhances the integration of AI tools, resolves AI assimilation barriers, and optimizes recruitment efficiency [7]. Grassroots positions (such as customer service and sales) are suitable for AI batch screening. Because AI can easily determine whether a candidate has the ability to perform these basic repetitive tasks. But executive recruitment still relies on manual in-depth assessment (AI is difficult to judge strategic thinking, leadership). At the same time, AI is often responsible for the preliminary evaluation of candidates, and the human resources workers who are responsible for these jobs often do not have the power to screen senior executives.

3.3 Differences in Technical Application Scenarios and Scenario Adaptability

The application of AI in human resource management exhibits a classic “double-edged sword” characteristic. Organizations should emphasize ensuring the scientific validity and adaptability of AI implementation, particularly regarding methods that enhance job seekers’ responsiveness and cognitive capabilities. While strengthening data security safeguards, it’s crucial to prudently address potential risks and achieve a virtuous synergy between technological empowerment and organizational development [8]. In

summary, AI performed well in “hard screening” (such as academic qualifications and skill certificates) but was less accurate in “soft ability assessment” (such as negotiation skills and crisis management).

4. Optimization Strategies and Suggestions

4.1 From the Perspective of the Enterprise

Algorithmic transparency: Enterprises should explain the dimensions of AI evaluation to candidates through official channels, and provide a human-machine collaboration mode for appeal. Many students feel overwhelmed during AI interviews and don’t know how to perform to get a higher score. Therefore, they choose to show more of their technical expertise than their personal charm [9]. Therefore, in order to ensure the quality of interviews, companies should provide candidates with appropriate appeal channels and ensure that there is someone responsible for monitoring AI recruitment to a certain extent. What’s more, companies should also promote efficient division of labor between people and AI. AI is responsible for the initial screening and basic evaluation, while HR focuses on “humanized links” such as cultural matching and motivational interview.

Continuous audit and correction: Human resources departments should regularly examine AI decision-making data to identify biases (such as abnormally low pass rates for certain groups). This can generally prevent AI recruitment from being distorted and provide timely feedback on effective data for improvement. What’s more, it is also important to optimize the algorithm parameters regularly. This is not only necessary to improve efficiency and reduce costs, but also important to adapt to market changes and ensure data security compliance.

4.2 Policy and Industry Level

Environmental protection policy. While AI help improve operational efficiency, environmental pressures must also be taken into account. AI models require a lot of computing power, resulting in high energy consumption and increased Carbon Monoxide emissions. Case studies have shown that the integration of Generative Artificial Intelligence has led to efficiency gains. The time required for the recruitment process has been reduced by 13.25 hours, saving thousands of work hours per year. At the same time, costs and energy consumption, as well as associated carbon emissions, have been reduced [10]. The environmental problems caused by the operation of AI are not to be underestimated, but they are often overlooked. There-

fore, relevant environmental protection policies should be introduced, which can not only provide unified standards for related industries, but also strengthen people's awareness of environmental protection when using AI.

AI recruitment ethics standards. Governments can set ethical standards for AI recruitment, and define the boundaries of data collection (such as the prohibition of access to health and dating information). At the same time, algorithmic fairness requirements should be Harmonized to a certain degree (such as the European Union AI Act, which lists recruitment AI as a „high-risk application“). The study attempts to investigate the relationship between (job seekers) perceived AI use in the recruitment process (PUAHP) and perceived procedural justice (PPJ) through extending the Technology Acceptance Model (TAM) as a mediator perceived ease of use (PEU), perceived usefulness (PU), and perceived trust (PT)] [11]. It can be seen that fairness, as an important part of job seekers' needs, cannot be ignored.

Third-party authentication mechanism: Government or industry joint departments can conduct bias detection and privacy compliance certification for AI recruitment tools, providing enterprises with a basis for selection.

4.3 The Individual Level

Candidate: Candidates need to understand the logic of AI screening and match skills, experience and achievements in their resume with the keywords required by the position, such as „project management“ and „data analysis“. However, it is important to note that people should not exaggerate or even falsify facts in their resume. This is not just a temporary integrity issue, but data that can be easily detected and permanently recorded by AI. In addition, since AI asks a lot of routine questions such as self-introduction, career motivation, skills and cases, it is even more important to prepare in advance. People can also practice more with mock interview platforms (like HireVue, MyInterview), especially those developed in the same industry, to familiarize them with the process. Moreover, People should use a clearer structure to match the language patterns of AI when answering questions. For example, they can use the situation-task-action-result (STAR) rule to organize content. Last but not least, pay attention to personal information security during the interview process, and ensure encrypted data transmission and storage.

Not only for technical staff, but also for everyone in human resources to improve digital literacy is a must. Only with a certain degree of understanding of the principles of AI algorithms can they better improve the quality of their work by modifying parameters and integrating data. The

rise of artificial intelligence in human resource management has sparked concerns about job displacement and potential biases in decision-making. HR departments are therefore committed to addressing these issues through enhanced transparency, accountability, and human oversight to ensure ethical and effective AI integration. The use of computers and automation in workplaces has evolved from being unavoidable to permeating every aspect. Data and machine learning-driven intelligence has taken the lead in human resource management. Meanwhile, the use of autonomous systems and automation in the workplace and its impact on the financial aspects of human resource management is profound. [12]. In addition, human resources workers also need to strengthen their ability to „humanize assessment“ (such as designing culturally compatible questions) so that applicants will not feel that they are being treated by machines all the time.

5. Conclusion

In summary, this study employs literature analysis and interview data to demonstrate the inevitable prevalence of AI recruitment in today's context. By examining its unique advantages, it reveals the driving forces behind this trend. Furthermore, the text analyzes multiple dimensions of factors influencing AI recruitment practices. Finally, suggestions are given from the perspective of both candidates and recruiters to adapt to the new mode of AI recruitment. AI recruitment will propel the industry toward new heights through its efficiency, precision, personalization, security, and deep integration. Both enterprises and job seekers stand to benefit from this evolution, creating a smarter bridge between talent supply and demand.

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