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HOW DOES AI RECRUITMENT INFLUENCE SATISFACTION AMONG STUDENT JOB-SEEKERS? THE ROLE OF SELF-EFFICACY AS A MODERATOR AND MEDIATOR

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Abstract. *Introduction.* Companies have recently begun to use Artificial Intelligence (AI) technology for recruitment. Job seekers are then analysed and recruited by AI interview systems. However, there is a lack of studies on the relationship between AI recruitment and job seekers.

Aims. This study *aims* to analyse job seekers' perception of AI recruitment expected value, to investigate how to improve job seeker satisfaction under the AI recruitment technology, and to explore the expectations of job seekers in the AI recruitment process. Besides, self-efficacy serves as a moderator and mediator in the relationship between perception of AI recruitment expected value and job seeker satisfaction.

Aims. This study aims to analyse job seekers' perception of AI recruitment expected value, to investigate how to improve job seeker satisfaction under the AI recruitment technology, and to explore the expectations of job seekers in the AI recruitment process.

Methodology and research method. A sample of 254 student job seekers was collected for data analysis. Self-efficacy serves as a moderator and mediator in the relationship between perception of AI recruitment expected value and job seeker satisfaction. Through factor analysis, the study classified and named each dimension of perception of AI recruitment expected value and self-efficacy. Perception of AI recruitment expected value is divided into full participation, process flexibility and file diversity. Self-efficacy is divided into positivity and confidence. Next, statistical analysis was then performed to test the hypotheses.

Results. The findings show that (1) the process flexibility is positively correlated with job seeker satisfaction; (2) positivity has a moderating effect on full participation and job seeker satisfaction; (3) confidence has a moderating effect on process flexibility and job seeker satisfaction; (4) positivity and confidence serve as mediators the relationship between perception of AI recruitment expected value and job seeker satisfaction.

Scientific novelty. The current study helped to develop new scales to measure the constructs related to AI recruitment.

Practical significance. The findings provide us with information to improve job seeker satisfaction in AI recruitment. Companies provide AI recruitment maps before recruiting, give job seekers greater flexibility in the process, and finally produce recruitment results quickly after the job search and provide feedback from AI analysis.

Keywords: AI recruitment, self-efficacy, satisfaction, student job seekers.

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КАК ИСКУССТВЕННЫЙ ИНТЕЛЛЕКТ В РЕКРУТИНГЕ ВЛИЯЕТ НА УДОВЛЕТВОРЕННОСТЬ СТУДЕНТОВ, ИЩУЩИХ РАБОТУ? РОЛЬ САМОЭФФЕКТИВНОСТИ КАК МОДЕРАТОРА И ПОСРЕДНИКА

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Аннотация. *Введение.* Компании недавно начали использовать технологию искусственного интеллекта (ИИ) в рекрутинге. Затем людей, ищущих работу, анализируют и принимают на работу, используя технологии ИИ. Однако проводится недостаточно исследований по вопросу о взаимосвязи между подбором сотрудников с использованием ИИ и лицами, ищущими работу.

Цель исследования – проанализировать восприятие соискателями ожидаемой ценности рекрутинга ИИ, изучить, как повысить удовлетворенность соискателей с помощью технологии найма ИИ, а также изучить ожидания соискателей в процессе найма ИИ с использованием технологии ИИ.

Методология и методы исследования. Для анализа данных была сделана выборка из 254 студентов, ищущих работу. Самоэффективность служит модератором и посредником в отношениях между восприятием ожидаемой ценности набора ИИ и удовлетворенностью работой соискателями. С помощью факторного анализа авторы исследования классифицировали и дали название каждому аспекту восприятия ИИ относительно ожидаемой ценности и самоэффективности. Восприятие ожидаемой ценности найма ИИ включает полное участие, гибкость процесса и возможность загружать разнообразные файлы. Самоэффективность включает позитивность и уверенность. Затем был проведен статистический анализ для проверки гипотез.

Результаты. Результаты показывают, что 1) гибкость процесса положительно коррелирует с удовлетворенностью соискателей; 2) позитивность оказывает сдерживающее влияние на полное участие и удовлетворенность соискателей; 3) уверенность оказывает сдерживающее влияние на гибкость процесса и удовлетворенность соискателей; 4) позитивность и уверенность служат посредниками в отношениях между восприятием ожидаемой ценности найма ИИ и удовлетворенностью соискателя.

Научная новизна. Настоящее исследование помогло разработать новые шкалы для измерения конструктов, связанных с ИИ в рекрутинге.

Практическая значимость. Полученные данные дают нам информацию для повышения удовлетворенности соискателей при найме с использованием ИИ. Компании предоставляют карты рекрутинга с помощью ИИ перед наймом, дают соискателям большую гибкость в процессе и, наконец, быстро предоставляют результаты рекрутинга после поиска работы и предоставляют отзывы об анализе с помощью ИИ.

***Ключевые слова**:* искусственный интеллект в рекрутинге, самоэффективность, удовлетворенность, ищущие работу студенты.

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Introduction

In recent years, many companies have also begun to use Artificial Intelligence (AI) technology for recruitment, and the candidates will be analysed and recruited by AI [1]. There are many studies that focus on how AI can help enterprises to gain the advantages of greatly reducing costs and simplifying the recruitment process in recruiting talents. However, few studies have been conducted on the relationship between AI recruitment and job seekers. Therefore, this study focuses on job seekers' expectations of AI recruitment, starting with job seekers' perception of expected value in the job search process. By that, this study hopes to bring more directions to optimise the functions of AI recruitment.

Geetha and Bhanu [2] mentioned that the ultimate goal of AI recruitment is to enable computers to perform recruitment tasks like humans. However, to achieve this goal, we must conduct multi-faceted discussions, including AI capabilities, recruitment results, job seeker satisfaction, etc. Exploring job seekers' satisfaction in the recruitment process can further promote the application of AI in recruitment. In addition, Bandura [3] also pointed out that the higher the self-efficacy, the higher the performance achievement, and the lower the emotional behaviour. Therefore, this study adds self-efficacy as a moderating and mediating variable, hoping to help companies that develop AI recruitment to better understand the expectations and needs of job seekers in AI recruitment, so as to provide companies with directions for improvement when recruiting.

Research purpose

AI recruitment has the characteristics of increasing fairness, improving efficiency, and feedback in recruitment. Therefore, there may be a positive relationship with job seeker satisfaction, and self-efficacy plays an important role in the job seeker's job search process. This is one of the important factors that will directly affect the performance results and the overall success of the job search process, as well as the satisfaction of job seekers. Many studies also prove that self-efficacy often plays a mediating or moderating role .

Thus, this study would like to take full time and working college students as the main research participants to explore the correlation between perception of AI recruitment expected value and satisfaction. Besides, self-efficacy as a moderator and mediator can help to gain more insights into the relationships among the constructs.

The research objectives of this study are: (1) To explore the relationship between perception of AI recruitment expected value and job seeker satisfaction; (2) To explore the relationship between self-efficacy and job seeker satisfaction; (3) To explore whether self-efficacy has a moderating effect between perception of AI recruitment expected value and job seeker satisfaction; (4) To explore whether self-efficacy has a mediating effect between perception of AI recruitment expected value and job seeker satisfaction.

Literature Review

AI Recruitment and Job Seeker Satisfaction

According to a study by Suen, Chen [6], due to the high media richness of the synchronous video application interface, more information can be conveyed during the interview process and the interviewer can perceive more self-promotional impression management strategies used by candidates during the interview. However, when the AI interviewer's asynchronous or synchronous video interview was added in the process, there was no significant difference between the applicant's self-promotional impression management and the interviewer's perception of the applicant's use of impression management. Nowadays, various media and applications have produced many recruitment methods. It is still necessary to further understand the way of synchronous and asynchronous interviews in order to effectively improve job search satisfaction.

Ammari, Kaye [7] pointed out that voice assistants with gender prompts can also better enable users to integrate into the interactive situation of the product. If AI services can accurately identify semantics and improve communication smoothness, it will directly affect the service effectiveness of AI voice services, giving

customers a better impression and experience, thereby improving satisfaction. Muduli and Trivedi [8] found that the function and information of recruitment websites had a significant positive impact on applicant satisfaction. It can be seen that understanding the needs of job seekers and adjusting recruitment content or website functions can improve job satisfaction of candidates.

also found that by deploying AI in human resource management, organisations can increase the efficiency of recruitment and selection, and gain access to larger recruiting resources. With the deployment of AI in human resource management, subjective criteria such as nepotism and interviewer preference will not have an impact on recruiting and selecting employees. AI deployment in human resource management also has a positive impact on employee development, retention, and output utilisation. If the fairness in the recruitment process can be improved, and if it is more beneficial to employees' career development, employee satisfaction will also increase.

Although there have been studies on AI recruitment, due to the diversity of recruitment methods, there are few studies that focus on job seeker satisfaction during the recruitment process. AI can actually provide job seekers with many recruitment benefits, such as: improving efficiency, increasing fairness and impartiality, fast feedback efficiency, unified standards, etc. The responses of job seekers may be influenced by cultural, social, legislative factors or differences in human resource management practices . Therefore, this study uses general AI recruitment channels as independent variables and conducts factor induction to explore the satisfaction of job seekers using AI recruitment in the job search process. Hypothesis 1 (H1) is proposed as follows:

H1: Perception of AI recruitment expected value has a significant and positive influence on job seeker satisfaction.

Self-Efficacy and Satisfaction

Lukacik, Bourdage [11] pointed out that with the popularity of video interviews, candidates' perception of fairness in video interviews comes from perceived usefulness, and perceived usefulness comes from candidates' self-efficacy in using the technology. Schunk and Pajares [12] stated that self-efficacy refers to beliefs about a person's ability to learn or behave at a particular level. Self-efficacy has been shown to play an important role in goal-related situations, and there are studies supporting the idea that self-efficacy motivates goal-related behaviours, direction, perseverance, and outcomes.

Doménech-Betoret and Abellán-Roselló [13] explore the motivational mechanisms underlying the relationship between self-efficacy and goals, to understand how and why self-efficacy affects the academic performance of self-fulfilling students. The findings show that self-efficacy affects students' academ-

ic achievement and their learning satisfaction, and it can be understood that self-efficacy is significantly related to final performance and satisfaction.

Besides, studied the relationship between teachers' self-efficacy beliefs and their job satisfaction. The findings show that there is a significant positive correlation between teacher self-efficacy and job satisfaction, and teacher self-efficacy is an important predictor of job satisfaction. Self-efficacy and satisfaction have been extensively studied in the field of education. It can be seen that self-efficacy is highly correlated with one's job satisfaction, learning effect, and learning satisfaction. Satisfaction is also an important indicator of self-efficacy. Therefore, this study is extended from the viewpoints discussed in the literature. The findings in previous studies indicate that self-efficacy affects factors such as cognition, behaviour, and outcomes. In AI recruitment, the level of self-efficacy may significantly influence job seeker satisfaction during the job search process. Therefore, Hypothesis 2 (H2) is proposed:

H2: Self-efficacy has a significant and positive influence on job seeker satisfaction.

Moderating and Mediating Effects of Self-Efficacy between AI Recruitment Expected Value Perception and Job Search Satisfaction

In the studies related to job search intention and satisfaction, mediating and moderating variables are often added for in-depth research. Self-efficacy plays a moderating effect in many studies. Usher, Li [15] proposed that psychological factors such as perseverance and self-efficacy have been proven to be effective indicators of performance. The purpose of the study was to examine perseverance and self-efficacy among U.S. elementary and middle school students and their predictive relationships with academic performance, teacher evaluation, and reading and math abilities. Self-efficacy partially or fully mediated the relationship between perseverance and school performance. The findings suggest that to improve student performance, teachers should target students' self-efficacy rather than courage.

Furthermore, self-efficacy often plays the role of a mediating variable in the past studies. Demir [16] pointed out that the more teachers' self-efficacy beliefs, the higher their job satisfaction, organisational commitment, motivation, and job engagement. Both job satisfaction and organisational commitment partially moderate the relationship between teachers' self-efficacy and motivation. Self-efficacy positively affects teachers' work engagement through the full mediation of job satisfaction and motivation. Practically, if school administrators hope teachers to more frequently give positive attitudes to work and move away from negative attitudes, they must contribute to improving and enhancing teacher self-efficacy.

Zhen, Liu [17] explored the relationship between competence, autonomy, and affinity and satisfaction, self-efficacy, positive and negative affect, and

learning engagement among junior high school students. Academic self-efficacy can mediate the relationship between competence and relatedness satisfaction and learning engagement. It can be understood that self-efficacy plays a partial or full mediation in many studies on final performance outcomes such as: academic performance, work motivation, ability, satisfaction, etc. Therefore, this study will use self-efficacy as a moderating and mediating variable to infer that high or low self-efficacy will influence the relationship between perception of AI recruitment expected value and job seeker satisfaction. Therefore, Hypotheses 3 (H3) and 4 (H4) are proposed:

H3: Self-efficacy has a moderating effect on the relationship between perception of AI recruitment expected value and job seeker satisfaction.

H4: Self-efficacy has a mediating effect on the relationship between perception of AI recruitment expected value and job seeker satisfaction.

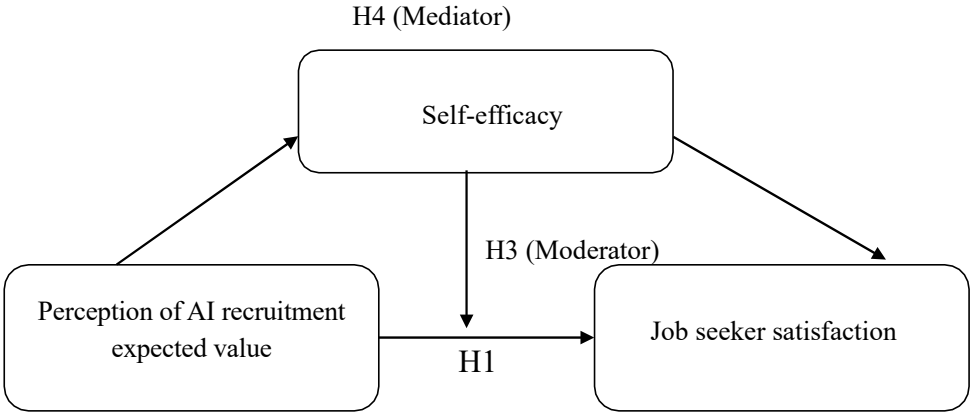

Fig. 1. Conceptual model

Methods

Participants

This study focuses on relevant job seekers who have experienced relevant digital recruitment. If they have no experience in AI recruitment, they will be asked to answer based on their impression of AI recruitment. The study attempts to understand participants' self-efficacy as a moderator or mediator of their satisfaction in participating in AI recruitment experience. In this study, a convenient and intentional sampling method was used to collect questionnaires. The participants are mainly students including full-time students and students

from departments of lifelong/continuing education in Vietnam. The sample was collected from November 12 to December 20 in 2021. A total of 269 questionnaires were collected in this study. After that, all the questionnaires were screened. 15 invalid questionnaires were deducted. Therefore, 254 valid questionnaires (94.42%) were actually obtained. Among the participants, male accounts for 44.88%, female accounts for 55.12%. Besides, age is divided into five groups: under 20 years old: 75 (29.53%), 21–30 years old: 98 (38.28%), 31-40 years old: 26 (10.24%), 41-50 years old: 42 (16.54%), over 51: 13 (5.12%). The age of the respondents in the study is mainly 21–30 years old, accounting for 38.28%. Occupations include Students: 157 (61.8%), manufacturing: 16 (6.3%), service industry: 36 (14.2%), high-tech: 11 (4.3%), military education: 11 (4.3%), other 23 (9.1%). Most of the participants have no experience in using AI recruitment: 223 (87.8%); 1 time: 19 (7.5%), 2 times: 6 (2.4%), 3 times: 4 (1.6%), more than 4 times: 2 (0.8%).

Research Design

Perception of AI recruitment expected value: The perception of expected value of AI recruitment is a relatively new research field, and few scales have been studied for AI recruitment. Therefore, this study refers to the study by Zwakman, Pal [18] on the content of AI speech system for the scale items, and adjusts it according to the past literature to be more suitable for the research purpose. This construct is defined as an inner expectation of various AI recruitment functions or properties. The perception of AI recruitment expected value scale has a total of 15 items.

Table 1

Scale of perception AI recruitment expected value

Items	**Perception of AI recruitment expected value**
1.	It is important to me to be able to decide when I would like to upload my resume videos in the AI recruitment.
2.	Being able to be flexible about the timing of online interviews is important to me in the AI recruitment.
3.	It is very important to me to be able to check the recruitment results by myself after the AI recruitment is completed.
4.	Judging emotional expressions during AI recruitment interviews is important to me.
5.	It's important to me to be able to produce recruitment results quickly after the AI has completed.
6.	It is important to me to be able to prepare a job search video recording in advance in the AI recruitment.

7.	The ease of uploading a resume interface is important to me in the AI recruitment.
8.	It is important to me that there is no limit to the size of the uploading resume files in the AI recruitment.
9.	Compatibility for uploading resume files is important to me in the AI recruitment.
10.	Diversity of formats for uploading resume files is important to me in the AI recruitment.
11.	It is important to me that interview conversations can be recorded in the AI recruitment.
12.	Judging the meanings of words during the interview is important to me in the AI recruitment.
13.	It is important to me to understand the AI analysis after the interview in the AI recruitment.
14.	It is important to me to understand the analytical criteria for AI interviews in the AI recruitment.
15.	It is important to me to understand the selection process in the AI recruitment.

Self-efficacy: This scale refers to the study by Cheung, Li [19]. The scale is modified and adjusted to be appropriate for this study. Self-efficacy is defined as the degree to which one can grasp and control the recruitment of AI. There are a total of 10 items on the scale.

Table 2

Scale of self-efficacy

Items	**Self-efficacy**
1.	I believe my knowledge can solve AI recruitment challenges I encounter.
2.	I would love to experiment with AI recruitment.
3.	I would like to share knowledge about AI recruitment with my colleagues.
4.	I have the confidence to quickly get started with various new technology applications in AI recruitment.
5.	I am a person who is willing to give suggestions and improvements to enterprises' AI recruitment.
6.	If I am not good at AI recruitment skills, I will ask and learn from others.
7.	If the company updates the AI recruitment technology, I will actively learn.
8.	If there is an innovative AI recruitment technology, I will take the initiative to learn about it.

9.	Learning new enterprise AI recruitment techniques was an easy thing for me.
10.	I can learn about AI recruitment in the enterprise faster than others.

Job seeker satisfaction: The scale refers to a study proposed by in the research on customer satisfaction. After adjusting and revising based on past literature, the construct is defined as the degree of internal satisfaction when job seekers use AI recruitment. The scale items are modified to be appropriate for the study. There are a total of 10 items on the job seeker satisfaction scale.

Table 3

Scale of job seeker satisfaction

Items	**Job seeker satisfaction**
1.	In general, the company's AI recruitment process sequence is stable.
2.	In general, I am positive about AI recruitment in the enterprise.
3.	I think the AI recruitment screening criteria provided by the company during the job search convinces me.
4.	I think AI recruitment is credible.
5.	I think the AI recruitment system is very easy to get started with.
6.	I think using AI recruitment is cost-effective.
7.	I think I am satisfied with the efficiency of AI recruitment.
8.	I think the system services of AI recruitment are to my satisfaction.
9.	I am glad to choose AI recruitment for my job search.
10.	I would like to continue to use AI recruitment for job search.

Control Variables

After the gendered innovation was proposed, gender attributes have also be considered in many AI products [21]. Belanche, Casaló [22] also pointed out that voice assistants with gender prompts are an important factor for users to better integrate into product interaction situations. Panadero, Jonsson [23] explored the impact of self-assessment on students' self-regulated learning and self-efficacy. He also found that gender (female students benefited more) and certain self-assessment components (such as self-monitoring) were important moderators of self-efficacy. In addition to gender, many studies have taken into account the demographic variable of age. They found that older students and students from lower socioeconomic status had significantly lower willpower and self-efficacy, and girls had higher willpower and reading self-efficacy. According to the aforementioned studies, demographic variables are likely to be the

influence of perception when applying for a job. Thus, the study uses three demographic variables of age, gender and occupation as control variables.

Data Analysis

This study uses SPSS20.0, PROCESS, and AMOS for statistical analysis. The research scale refers to the construction steps suggested by Hinkin [24] and DeVellis and Thorpe [25] to develop the scale in the order of establishing items, issuing the questionnaire, deleting items, confirming factor analysis, establishing convergence, and discriminant validity.

This study adopts a conscious and convenient sampling survey method to deliver questionnaires. Students and office workers are requested to answer based on their AI recruitment experience or the most recent job search experience. If not, they will be asked to answer based on their impressions and expectations of AI recruitment. The 7-point Likert scale was used as the measurement standard of the questionnaire, in which 1 is “strongly disagree” and 7 is “strongly agree”.

Results

Items Analysis

Multiple quantitative indicators are used to verify the suitability of the items DeVellis and Thorpe [25], including the extreme group comparison test and the homogeneity verification and other indicators.

Table 4

Scale item analysis of perception of AI recruitment expected value

	Items	Extreme group comparison CR values	Homogeneity test		
			Items related to total score	Corrected items related to the total score	Alpha coefficient after items deleted
1	It is important to me to be able to decide when I would like to upload my resume videos in the AI recruitment.	10.7***	0.663***	0.607	0.928
2	Being able to be flexible about the timing of online interviews is important to me in the AI recruitment.	11.367***	0.714***	0.667	0.927
3	It is very important to me to be able to check the recruitment results by myself after the AI recruitment is completed.	12.963***	0.772***	0.732	0.925

4	Judging emotional expressions during AI recruitment interviews is important to me.	13.199***	0.712***	0.661	0.927
5	It is important to me to be able to produce recruitment results quickly after the AI has completed.	10.98***	0.676***	0.621	0.928
6	It is important to me to be able to prepare a job search video recording in advance in the AI recruitment.	10.36***	0.630***	0.568	0.929
7	The ease of uploading a resume interface is important to me in the AI recruitment.	14.585***	0.780***	0.740	0.925
8	It is important to me that there is no limit to the size of the uploading resume files in the AI recruitment.	10.44***	0.618***	0.548	0.930
9	Compatibility for uploading resume files is important to me in the AI recruitment.	13.372***	0.737***	0.687	0.926
10	Diversity of formats for uploading resume files is important to me in the AI recruitment.	12.504***	0.710***	0.656	0.927
11	It is important to me that interview conversations can be recorded in the AI recruitment.	13.146***	0.747***	0.702	0.926
12	Judging the meanings of words during the interview is important to me in the AI recruitment.	13.185***	0.739***	0.694	0.926
13	It is important to me to understand the AI analysis after the interview in the AI recruitment.	12.177***	0.718***	0.667	0.927
14	It is important to me to understand the analytical criteria for AI interviews in the AI recruitment.	13.703***	0.762***	0.719	0.925
15	It is important to me to understand the selection process in the AI recruitment.	14.707***	0.756***	0.711	0.925
Overall reliability: 0.931					

It can be seen from Table 4 that the Cronbach's α value of the perception of AI recruitment expected value is 0.931, which is a high level of reliability,

indicating that this scale has a high degree of consistency. Secondly, the CR values of the extreme groups of each item have reached a significant level, and the correlation with the total score of the item has also reached a significant level, and the correlation between the corrected item and the total score is above 0.5. Furthermore, it can be seen from the α coefficient after the item is deleted that the Cronbach's α value of the scale does not increase significantly, and it remains between 0.925 and 0.930 [26]. Therefore, there is no need to delete any item from this scale.

Table 5

Scale item analysis of self-efficacy

	Items	Extreme group comparison CR values	Homogeneity test		
			Items related to total score	Corrected items related to the total score	Items related to total score
1	I believe my knowledge can solve AI recruitment challenges I encounter.	9.687***	0.638***	0.530	0.903
2	I would love to experiment with AI recruitment.	11.847***	0.702***	0.618	0.896
3	I would like to share knowledge about AI recruitment with my colleagues.	15.42***	0.767***	0.704	0.891
4	I have the confidence to quickly get started with various new technology applications in AI recruitment.	16.714***	0.792***	0.733	0.889
5	I am a person who is willing to give suggestions and improvements to enterprises' AI recruitment.	17.378***	0.780***	0.717	0.889
6	If I am not good at AI recruitment skills, I'll ask and learn from others.	14.749***	0.731***	0.667	0.893
7	If the company updates the AI recruitment technology, I will actively learn.	13.937***	0.734***	0.667	0.893
8	If there is an innovative AI recruitment technology, I will take the initiative to learn about it.	19.007***	0.737***	0.668	0.892
9	Learning new enterprise AI recruitment techniques was an easy thing for me.	14.389***	0.719***	0.633	0.895

10	I can learn about AI recruitment in the enterprise faster than others.	15.009***	0.743***	0.670	0.892
Overall reliability: 0.903					

It can be seen from Table 5 that the Cronbach's alpha value of self-efficacy is 0.903, which is a high level of reliability, indicating that the scale has a high degree of consistency. Secondly, the CR values of the extreme groups of each item have reached a significant level, and the correlation with the total score of the item has also reached a significant level, and the correlation between the corrected item and the total score is above 0.5. Furthermore, it can be seen from the α coefficient after the item is deleted that the Cronbach's α value of the scale does not increase significantly, and it remains between 0.889 and 0.903 [26]. Therefore, there is no need to delete any item.

Table 6

Scale item analysis of job seeker satisfaction

	Items	**Extreme group comparison CR values**	**Homogeneity test**		
			Items related to total score	**Corrected items related to the total score**	**Items related to total score**
1	In general, the company's AI recruitment process sequence is stable.	12.216***	0.777***	0.719	0.929
2	In general, I am positive about AI recruitment in the enterprise.	15.401***	0.841***	0.799	0.925
3	I think the AI recruitment screening criteria provided by the company during the job search convinces me.	12.965***	0.798***	0.745	0.928
4	I think AI recruitment is credible.	14.591***	0.817***	0.766	0.927
5	I think the AI recruitment system is very easy to get started with.	13.889***	0.777***	0.721	0.929
6	I think using AI recruitment is cost-effective.	13.502***	0.755***	0.693	0.936
7	I think I am satisfied with the efficiency of AI recruitment.	14.783***	0.755***	0.809	0.930
8	I think the system services of AI recruitment are to my satisfaction.	14.349***	0.848***	0.809	0.925
9	I am glad to choose AI recruitment for my job search.	15.127***	0.830***	0.783	0.926

10	I would like to continue to use AI recruitment for job search.	15.305***	0.840***	0.793	0.925
Overall reliability: 0.935					

It can be seen from Table 6 that the Cronbach's α value of job seeker satisfaction is 0.917, which is a high level of reliability, indicating that the scale has a high degree of consistency. Secondly, the CR values of the extreme groups of each item have reached a significant level, and the total correlation with the item score has also reached a significant level, and the correlation between the corrected item and the total score is above 0.5. Furthermore, it can be seen from the α coefficient after the item is deleted that the Cronbach's α value of job seeker satisfaction does not increase significantly, and remains between 0.925 and 0.930 . Therefore, there is no need to delete any item in this scale.

KMO Analysis and Bartlett's Spherical Test

In this study, KMO and Bartlett's sphere test were used to test the Kaiser-Meyer-Olkin sampling appropriateness measure for partial correlation among variables. As shown in Table 7, the KMO values of perception of AI Recruitment expected value, self-efficacy, and job seeker satisfaction are 0.955, 0.915, and 0.872, respectively (> 0.8). Besides, the significance of the three-dimensional Bartlett spherical test is p-value = 0.000, which has reached a significant level . It can be seen that the above three scale items all have enough common factors to meet the requirements for factor analysis.

Table 7

KMO and Bartlett's Spherical Test

Perception of AI recruitment expected value		**Self-efficacy**	**Job seeker satisfaction**
KMO	0.916	0.882	0.901
Significance of Bartlett's Sphere Test	0.000	0.000	0.000

Factor Analysis and Naming

The study adopts principal component analysis (PCA) to extract factors and convert multiple indicators into a few indicators. The factor loading that is lower than 0.6 will be deleted . After deleting the scale items less than 0.6, the reliability and validity of the three dimensions were calculated, and then the factors were summarised and named according to the content correlation of the items to form the scale of this study.

Table 8

Factor loadings of each dimension of perception of AI recruitment expected value

		Names of factors		
	Perception of AI recruitment expected value	**Full participation**	**Process flexibility**	**File diversity**
12	Judging the meanings of words during the interview is important to me in the AI recruitment.	0.713	0.283	0.285
13	It is important to me to understand the AI analysis after the interview in the AI recruitment.	0.874	0.197	0.164
14	It is important to me to understand the analytical criteria for AI interviews in the AI recruitment.	0.837	0.341	0.125
15	It is important to me to understand the selection process in AI recruitment.	0.716	0.238	0.366
1	It is important to me to be able to decide when I would like to upload my resume videos in the AI recruitment.	0.138	0.735	0.254
2	Being able to be flexible about the timing of online interviews is important to me in the AI recruitment.	0.432	0.625	0.118
3	It is very important to me to be able to check the recruitment results by myself after the AI recruitment is completed.	0.381	0.719	0.213
4	Judging emotional expressions during AI recruitment interviews is important to me.	0.465	0.613	0.131
5	It is important to me to be able to produce recruitment results quickly after the AI has completed.	0.192	0.749	0.194
6	It is important to me to be able to prepare a job search video recording in advance in the AI recruitment.	0.133	0.676	0.240
8	It is important to me that there is no limit to the size of the uploading resume files in the AI recruitment.	0.198	0.133	0.789
9	Compatibility for uploading resume files is important to me in the AI recruitment.	0.174	0.319	0.836
10	Diversity of formats for uploading resume files is important to me in the AI recruitment.	0.173	0.249	0.858

11	It is important to me that interview conversations can be recorded in the AI recruitment.	0.477	0.247	0.601
Eigenvalues		3.432	3.409	2.914
% variance explained		24.511	24.352	20.814
% of total explained variance		24.511	78.863	69.676
Reliability		0.891	0.866	0.871
Number		4	6	4
Deleted item: 7				

As shown in Table 8, the factor loading of item 7 is less than 0.6 and cannot be classified into any of the above three factors. Thus, item 7 is deleted.

Table 9

Factor loadings of each dimension of self-efficacy

	Self-efficacy	**Names of factors**	
		Positivity	**Confidence**
3	I would like to share knowledge about AI recruitment with my colleagues.	0.648	0.411
5	I am a person who is willing to give suggestions and improvements to enterprises' AI recruitment.	0.617	0.489
6	If I am not good at AI recruitment skills, I will ask and learn from others.	0.891	0.163
7	If the company updates the AI recruitment technology, I will actively learn.	0.898	0.168
8	If there is an innovative AI recruitment technology, I will take the initiative to learn about it.	0.821	0.255
1	I believe my knowledge can solve AI recruitment challenges I encounter.	0.147	0.725
4	I have the confidence to quickly get started with various new technologies.	0.333	0.787
9	Learning new enterprise AI recruitment techniques was an easy thing for me.	0.216	0.822
10	I can learn about AI recruitment in the enterprise faster than others.	0.240	0.829
Eigenvalues		3.312	3.037
% variance explained		36.803	33.746

% of total explained variance	36.803	70.549
Reliability	0.888	0.845
Number	5	4
Deleted Item: 2		

As shown in Table 9, the factor loading of item 2 is less than 0.6 and cannot be classified into any of the above two factors. Thus, item 2 is deleted.

Table 10

Factor loadings of each dimension of job seeker satisfaction

Job seeker satisfaction		**Names of factors**
		Job seeker satisfaction
8	I think the system services of AI recruitment are to my satisfaction.	0.851
10	I would like to continue to use AI recruitment for job search.	0.850
2	In general, I am positive about AI recruitment in the enterprise.	0.848
9	I am glad to choose AI recruitment for my job search.	0.841
4	I think AI recruitment is credible.	0.833
3	I think the AI recruitment screening criteria provided by the company during the job search convinces me.	0.797
5	I think the AI recruitment system is very easy to get started with.	0.792
1	In general, the company's AI recruitment process sequence is stable.	0.786
7	I think I am satisfied with the efficiency of AI recruitment.	0.724
Eigenvalues		5.970
% variance explained		66.331
% of total explained variance		66.331
Reliability		0.936
Number		9
Deleted Item: 6		

As shown in Table 10, the factor loading of item 6 is less than 0.6 and cannot be classified into any of the above factors. Thus, item 6 is deleted.

Composite Reliability and Construct Validity

According to Bagozzi and Yi [29], the composite reliability should be greater than 0.6, and the CR value of each variable in this study is greater than 0.6, indicating that the internal consistency of each aspect of this study is consistent. Besides, Fornell and Larcker [30] suggested that the standard value of AVE should be greater than 0.5. The AVE value of each variable in this study is greater than 0.5, indicating that it has convergent validity as shown in Table 11. If the AVE square root values of the factors are all greater than the correlation coefficient between the construct and other construct, it means that each construct has good discriminant validity [30, 31]. Therefore, the composition of the following correlation coefficients in Table 11 shows that the scales in this study have good composited reliability and construct validity.

Table 11

Correlation coefficient, construct reliability and validity among constructs

	Full participation	**Process flexibility**	**File diversity**	**Positivity**	**Confidence**	**Job seeker satisfaction**
Full participation	**0.824**					
Process flexibility	0.672***	**0.724**				
File diversity	0.589***	0.585***	**0.800**			
Positivity	0.508***	0.554***	0.374***	**0.789**		
Confidence	0.254***	0.314***	0.172***	0.596***	**0.772**	
Job seeker Satisfaction	0.242***	0.403***	0.282***	0.452***	0.490***	**0.789**
Mean	5.546	5.347	5.331	5.264	4.470	4.585
Standard deviation	1.016	0.889	1.047	0.878	0.993	0.836
CR	0.894	0.868	0.875	0.890	0.851	0.937
AVE	0.679	0.525	0.640	0.623	0.597	0.622
Reliability	0.891	0.866	0.871	0.888	0.845	0.936

Structural Model Fit

First, we analyse the single factor individually, and then conduct factor analysis for the above six dimensions. Six-factor analysis was performed, and

the results are presented in Table 12. As shown in Table 12, using six factors are more ideal than single factors, because the explanatory power and fit of six factors are higher than that of single factors [32]. Besides, it can be seen from Table 13 that the fit of each dimension is within the acceptable range.

Table 12

Structural model fit

	Single factor	**Six factors**
df	464	449
$\chi 2$	6644.36	1290.06
$\chi 2/df$	14.320	2.873
RMSEA	0.23	0.086
GFI	0.38	0.76

Table 13

Reliability and validity

Dimensions		**GFI**	**SRMR**	**t-value range**
Perception of AI recruitment expected value	Full participation	0.87	0.072	12.78–18.53
	Process flexibility			9.99–15.62
	File diversity			12.15–17.46
Self-efficacy	Positivity	0.85	0.094	11.34–17.88
	Confidence			8.81–17.53
Job seeker satisfaction	Job seeker satisfaction	0.78	0.061	12.29–16.31

Collinear Analysis

The indicators examined in this study include: Variation Inflation Factor (VIF), Tolerance, Condition indices (CI) and Eigenvalue to determine whether there is collinearity between dimensions. Table 14 shows that the tolerance values are between 0.4 and 0.65, all higher than 0.1, and the expansion coefficients are between 1 and 3, all lower than 10. Therefore, there is no obvious collinearity in the items. It can also be seen from Table 14 that the correlation coefficients between the variables are all lower than 0.8, indicating that there is no multi-collinearity in this study [24].

Table 14

Collinear analysis

Collinearity test						
	Constant	**Full participation**	**Process flexibility**	**File diversity**	**Positivity**	**Confidence**
Tolerance		0.467	0.444	0.586	0.471	0.641
VIF		2.139	2.253	1.706	2.123	1.561
Eigenvalues	5.908	0.041	0.016	0.015	0.010	0.009
CI	1.000	11.948	19.052	19.736	24.171	25.586

Furthermore, in order to avoid research bias, this study adopts the method of anonymising the interviewed information to answer the questionnaire, and reduces the complexity of the question items, so as to avoid the misunderstanding or doubt of the respondents when answering. It can be seen from Table 15 that the maximum amount of variation that can be explained by a single factor is 36.345%, which is lower than 50% .

Table 15

Exploratory factor analysis

	Total	**Explanation of variance %**	**Cumulative explanation %**
1	11.630	36.345	36.345
2	4.452	13.913	50.257
3	2.533	7.916	58.174
4	1.491	4.659	62.832
5	1.220	3.813	66.645
6	1.151	3.598	70.243

Hierarchical Regression Analysis

In order to verify the correlation between independent variables and dependent variables, hierarchical regression analysis will be used. Hypotheses 1 and 2 of this study were verified by general linear regression, and the moderating effect of Hypothesis 3 was verified by hierarchical regression analysis. According to Baron and Kenny [34], control variables, independent variables and moderator variables, and interaction were added in turn. In this study, in order to avoid excessive correlation between variables in the regression model, the independent variables and moderator variables were first decentralised and then multiplied, so as to avoid the problem of multi-collinearity and affect the final results [35].

Since Job seeker satisfaction is a single dimension variable as shown above, this study will conduct hierarchical regression analysis with Job Seeker Satisfaction as a dependent variable (Table 16).

Table 16

Hierarchical regression of perception of AI recruitment expected value on job seeker satisfaction

Job seeker satisfaction				
Variables	**Demographics (Model 1)**	**Independent variable A (Model 2)**	**Moderator B (Model 3)**	**Interaction of A*B (Model 4)**
Control variables				
Gender	-0.046	-0.075	-0.031	-0.024
Age	0.124	0.091	-0.009	-0.007
Occupation	0.060	0.026	0.031	0.015
Independent - A				
Full participation AA1		-0.103	-0.160*	-0.081
Process flexibility AA2		0.395**	0.254**	0.239**
File diversity AA3		0.108	0.116	0.024
Moderator - B				
Positivity BB1			0.145	0.164*
Confidence BB2			0.337***	0.318***
Interaction - AB				
AA1*BB1				-0.337**
AA1*BB2				0.100
AA2*BB1				0.076
AA2*BB2				-0.213*
AA3*BB1				0.143
AA3*BB2				0.189
R 2	0.032	0.188	0.332	0.395
Adj-R 2	0.020	0.168	0.310	0.359
F - value	2.752*	9.543***	15.228***	11.132***
R squared change		0.156	0.144	0.063
F change		15.844***	26.396***	4.119**
N = 254 Note: *p < .05; **p < .01; ***p <. 001				

It can be seen from Model 1 that the regression coefficients of gender, age and occupation did not reach the significant standard. Then model 2 adds independent variables – three factors extracted from perception of AI recruitment expected value to explore the relationship between perception of AI recruitment expected value and job seeker satisfaction. According to the results, it can be found that full participation ($\beta = -0.103$, $p > .05$) did not reach a significant level.

Process flexibility (β = 0.395, p < .01) reached a significant level. File diversity (β = 0.108, p > .05) did not reach a significant level. It means that only process flexibility and job seeker satisfaction have a positive and significant correlation, so Hypothesis 1 is partially supported.

Model 3 adds self-efficacy as a moderator variable. Table 16 shows that positivity (β = 0.145, p >. 05) did not reach a significant level, while confidence (β = 0.337, p < .001) reached a highly significant level. It indicates that the confidence in self-efficacy is positively and significantly correlated with Job Seeker Satisfaction. Thus, Hypothesis 2 is partially supported.

In Model 4, the interaction of perception of AI recruitment expected value and self-efficacy is included to explore the correlation between the interaction and job seeker satisfaction. From the results, it can be seen that full participation * motivation (β = -0.337, p < .01) and process flexibility * confidence (β = -0.213, p < .05) have significant correlation. Therefore, self-efficacy has a partial moderating effect on the relationships between perception of AI recruitment expected value and job seeker satisfaction. Thus, Hypothesis 3 is partially supported.

Mediating Effect

This study uses process validation to further understand whether self-efficacy has a direct or indirect effect on perception of AI recruitment expected value and job seeker satisfaction (Table 17).

Table 17

The direct and indirect effects of perception of AI recruitment expected value on job seeker satisfaction (1)

The direct effect of full participation on job seeker satisfaction					
Effect	SE	t	p	LLCI	ULCI
0.013	0.538	0.238	0.812	-0.093	0.119
The indirect effect of full participation on job seeker satisfaction					
Self-efficacy - positivity	Effect		Boot SE	BootLLCI	BootULCI
	0.187		0.036	0.117	0.257

From Table 17, we can see that the confidence interval of the direct effect of full participation on job seeker satisfaction is between -0.093 and 0.119, and the interval result contains 0, which means that it does not reach a significant level. It means that there is no direct effect between full participation and job seeker satisfaction . The confidence interval of the indirect effect of full participation on job seeker satisfaction is between 0.117 and 0.257, which does not contain 0. If it reaches a significant level, it can be inferred that there is an indirect effect

on perception of AI recruitment expected value-full participation and job seeker satisfaction. According to the results in Table 17, only the indirect effect exists, indicating that the positivity of self-efficacy has a full mediating effect in this model, so Hypothesis 4 is supported.

Table 18

The direct and indirect effects of perception of AI recruitment expected value on job seeker satisfaction (2)

The direct effect of full participation on job seeker satisfaction					
Effect	SE	t	p	LLCI	ULCI
0.103	0.046	2.221	0.027	0.012	0.194
The indirect effect of full participation on job seeker satisfaction					
Self-efficacy - confidence	Effect		Boot SE	BootLLCI	BootULCI
	0.096		0.028	0.040	0.151

From the results in Table 18 above, we can see that the confidence interval of the direct effect of full participation on job seeker satisfaction is between 0.012 and 0.194, and the interval does not contain 0, which means it reaches a significant level. It means that there is a direct effect between full participation and job seeker satisfaction . The confidence interval of the indirect effect of full participation on job seeker satisfaction is between 0.040 and 0.151, and the interval does not contain 0, which means it reaches a significant level. It means that there is an indirect effect between perception of AI recruitment expected value – full participation and job seeker satisfaction . According to the results, both direct and indirect effects exist in the model, indicating that confidence of self-efficacy has a partial mediating effect in this model, so Hypothesis 4 is supported.

Table 19

The direct and indirect effects of perception of AI recruitment expected value on job seeker satisfaction (3)

The direct effect of full participation on job seeker satisfaction					
Effect	SE	t	p	LLCI	ULCI
0.103	0.046	2.221	0.027	0.012	0.194
The indirect effect of full participation on job seeker satisfaction					
Self-efficacy - confidence	Effect		Boot SE	BootLLCI	BootULCI
	0.096		0.028	0.040	0.151

It can be seen from Table 19 that the confidence interval of the direct effect of process elasticity on job seeker satisfaction lies in the range of 0.084–0.329, which does not contain 0 and reaches a significant level ($p < 0.01$). It means that there is a direct effect between process flexibility and job seeker satisfaction . The confidence interval of the indirect effect of process flexibility on job seeker satisfaction is between 0.095 and 0.264, and the interval does not contain 0, which means it reaches a significant level. It indicates that there is an indirect effect between perception of AI recruitment expected value-process flexibility and job seeker satisfaction . According to the above results, both direct and indirect effects exist, indicating that positivity of self-efficacy has a partial mediating effect, so Hypothesis 4 is supported.

Table 20

The direct and indirect effects of perception of AI recruitment expected value on job seeker satisfaction (4)

The direct effect of process flexibility on job seeker satisfaction					
Effect	SE	t	p	LLCI	ULCI
0.206	0.062	3.318	0.001	0.084	0.329
The indirect effect of process flexibility on job seeker satisfaction					
Self-efficacy - positivity	Effect		Boot SE	BootLLCI	BootULCI
	0.172		0.044	0.095	0.264

From the results in Table 20 above, it can be seen that the confidence interval of the direct effect of process flexibility on job seeker satisfaction is between 0.157–0.362, and the interval does not contain 0 and reaches a significant level ($p < 0.001$). It means that there is a direct effect between process flexibility and job seeker satisfaction. The confidence interval of the indirect effect of process flexibility on job seeker satisfaction is between 0.057 and 0.196, and the interval does not contain 0, which means it reaches a significant level. It indicates that there is an indirect effect between perception of AI recruitment expected value -process flexibility and job seeker satisfaction. According to the results, both direct and indirect effects exist, and the confidence of self-efficacy has a partial mediating effect in this model, so Hypothesis 4 is supported.

From Table 21, it can be seen that the confidence interval of the direct effect of file diversity on job seeker satisfaction is between 0.010 and 0.200, and the interval does not contain 0 and reaches a significant level ($p < 0.05$). It indicates that there is a direct effect between file diversity and job seeker satisfaction. The confidence interval for the indirect effect of file diversity on job seeker satisfaction is between 0.059 and 0.197, and the interval does not

contain 0, which means it reaches a significant level. It indicates that there is an indirect effect of perception of AI recruitment expected value-file diversity on job seeker satisfaction. According to the results, both direct and indirect effects exist in this model, and the positivity of self-efficacy has a partial mediating effect in this model, so Hypothesis 4 is supported.

Table 21

The direct and indirect effects of perception of AI recruitment expected value on job seeker satisfaction (5)

The direct effect of file diversity on job seeker satisfaction					
Effect	SE	t	p	LLCI	ULCI
0.105	0.048	2.176	0.031	0.010	0.200
The indirect effect of file diversity on job seeker satisfaction					
Self-efficacy - positivity	Effect		Boot SE	BootLLCI	BootULCI
	0.121		0.035	0.059	0.197

Table 22

The direct and indirect effects of perception of AI recruitment expected value on job seeker satisfaction (6)

The direct effect of file diversity on job seeker satisfaction					
Effect	SE	t	p	LLCI	ULCI
0.163	0.043	3.750	0.000	0.077	0.248
The indirect effect of file diversity on job seeker satisfaction					
Self-efficacy - confidence	Effect		Boot SE	BootLLCI	BootULCI
	0.062		0.030	0.009	0.127

From Table 22, it can be seen that the confidence interval of the direct effect of file diversity on job seeker satisfaction is between 0.077 and 0.248, and the interval does not include 0 and reaches a significant level ($p < 0.001$). It indicates that there is a direct effect between file diversity and job seeker satisfaction. The confidence interval of the indirect effect of file diversity on job seeker satisfaction is between 0.009 and 0.127, and the interval does not contain 0, which means it reaches a significant level. Perception of AI recruitment expected value-file diversity has an indirect effect on job seeker satisfaction. According to the results, both direct and indirect effects exist in this model, indicating that confidence of self-efficacy has a partial mediating effect, so Hypothesis 4 is supported.

Conclusions

From the analysis results, it can be seen that process flexibility in perception of AI recruitment expected value is positively correlated with job seeker satisfaction. Therefore, it can be inferred that the respondents' expectations of increasing the control and feedback of the overall process in the recruitment process can improve their satisfaction with the job search experience. For example, before recruitment, job seekers should be allowed to prepare recruitment videos and decide the upload time of video and audio resumes before conducting manual recruitment. During recruitment, emotional expressions need to be accurately judged. After recruitment, the system can quickly generate recruiting results and enable job seekers to search for the results online. The mastery and flexibility of the overall job search process are very important for job seekers and can also improve their satisfaction. Therefore, the following suggestions are for enterprises.

Suggestion 1. When companies conduct AI recruitments, they should start from the overall recruitment process, so that job seekers have a clear overall process recruitment map, and understand all the steps and channels through which they can obtain information.

Suggestion 2. When planning the recruitment process, companies should give job seekers an appropriate degree of mastery, such as flexibility in recruitment time points, so that job seekers can prepare and decide on job videos or interview times with greater flexibility.

Suggestion 3. Companies should make job search results transparent and fast. Job search results usually need to wait for the system to reply. However, if the company can establish a system for information search, so that job seekers have the initiative in the recruitment results, and have considerable AI feedback, this will allow job seekers to understand their own interview status evaluation, etc., thus can improve job seeker satisfaction.

Moreover, after the test of the mediating effect, it is found that self-efficacy has a partial mediating effect on the relationship between perception of AI recruitment expected value and job seeker satisfaction. Those with high self-efficacy will also have higher job search satisfaction, while those with low self-efficacy will also have lower job search satisfaction. If an enterprise wants to improve job seeker satisfaction, it can not only aim at the flexibility of the process, but also achieve job seeker satisfaction by enhancing the enthusiasm and confidence of job seekers. The suggestions are as follows:

Enterprises can share information and popularise knowledge for job seekers before AI recruitment. Before recruiting, they can introduce AI recruitment through videos in order to let job seekers understand its development and application. Increasing familiarity can improve job seeker satisfaction. Giving

job seekers a certain level of understanding and confidence in recruitment can also improve process efficiency and reduce recruitment problems.

For job seekers, before applying for a job, they must have a prior understanding of the company's AI recruitment, improve the information about the company's AI recruitment, and understand the purpose and function of the company's application. This can improve their mastery of AI recruitment, and actively ask experienced seniors, so that they can have more information on the recruitment process and increase their confidence when applying for jobs.

Finally, AI recruitment is a relatively new topic in the field of human resources. In the past, many studies generally discussed the advantages brought by AI recruitment to enterprises, but few focused on job applicants and their satisfaction with the job search process. However, the findings in this study show that self-efficacy has a mediating and moderating effect on the perception of AI recruitment expected value and job seeker satisfaction, and the process flexibility of the recruitment is an important item for job seekers. In the future, when the application of AI in the field of human resources becomes more and more mature, more specific impacts can be explored, and more attention can be paid to job seekers. This will provide us with more information in the field of human resources.

Limitations and Future Research

First, due to the fact that few past studies have focused on perception of AI recruitment expected value and job seeker satisfaction, the scales in this study need more improvements and validation in future empirical studies. We suggest that AI recruitment related to job seeker satisfaction will continue to be developed, and the overall scale will be more accurate.

Second, there are many types of AI recruitment. This study only includes resume text analysis, chatbot interviews, and audio and video analysis. However, if we can specifically focus on an AI recruitment technology or focus on the recruitment process implemented by a certain enterprise, we believe that the research contribution will be increased, and the discussion on AI recruitment will be more in-depth and complete.

Finally, the research is mostly delivered to student groups, who have less experience in applying for jobs and lower understanding of AI recruitment. Besides, there is no in-depth analysis of specific respondents who have used AI recruitment. We suggest that in-depth research can be conducted on specific ethnic groups in the future, so as to make the research more valuable. Furthermore, this study is only a preliminary analysis from the perspective of job seekers. Therefore, if future studies can be conducted from the perspective of human resources personnel, they will bring more practical benefits.

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