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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON HUMAN RESOURCE MANAGEMENT PROCESSES

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ABSTRACT

This article explores the impact of Artificial Intelligence (AI) technology on Human Resource Management (HRM) processes, aiming to reveal the role of AI in improving HRM efficiency and enhancing employee experience and engagement. Firstly, a literature review indicates that AI technology can significantly improve the efficiency of recruitment, training, performance management, and employee support. Additionally, AI technology can enhance employee work experience and engagement by utilizing personalized training and intelligent employee care systems. Subsequently, it conducted a questionnaire survey among 206 employees engaged in HRM or other management roles, and used quantitative research methods to analyze the survey data statistically. The analysis revealed that respondents generally believe AI positively enhances HRM efficiency and improves employee experience and engagement. They also showed a high acceptance and adaptability to AI technology, although there were some concerns about its potential risks. Multiple linear regression analysis showed that perceived risk has a significant positive impact on job performance, while the influence of other factors is not significant. The article suggests that companies should focus on managing perceived risks when applying AI technology to ensure it has a positive impact on business outcomes, and it also emphasizes the importance of improving employee experience and engagement. This research provides theoretical support and practical guidance for the application of AI technology in the HRM field, and it also points out possible directions for future research.

Keywords : *Artificial Intelligence (AI), Human Resource Management (HRM), Efficiency, Employee Experience, Perceived Risk*

1. INTRODUCTION

Human Resource Management (HRM) is a crucial component of business management. It not only encompasses traditional functions such as recruitment, training, evaluation, and retention of employees, but also plays a key role in shaping corporate culture, driving strategic implementation, and enhancing organizational performance [1]. With the intensifying global competition and continuously changing work environment, more and more companies are realizing that efficient HRM is indispensable for attracting and retaining talent and improving employee job satisfaction and productivity [2].

Artificial intelligence (AI) has been widely applied and rapidly developed in fields such as natural

language processing, computer vision, healthcare, autonomous driving, financial technology, industrial manufacturing, education and training, and smart home systems, with significant technological advancements [3]. Overall, AI technology continuously makes breakthroughs and penetrates various fields, thereby driving comprehensive social and economic transformations [4].

With the rapid development of AI technology, the operational models of some industries are being redefined, including HRM [5]. AI technology can not only enhance data processing and analysis efficiency but also optimize various aspects of HRM through intelligent and automated methods, such as recruitment processes, employee training, performance management, and turnover management [6]. These technologies can improve HR operational efficiency, reduce human errors, and save more time for HR professionals to focus on strategic tasks such as talent planning and employee development, thereby providing better support for achieving the organization's long-term goals.

Although many studies have explored various applications of AI technology in HRM, there is relatively little research on how AI technology enhances employee experience and engagement. As companies increasingly emphasize employee experience and engagement, understanding AI's potential applications and actual effects in this area becomes particularly important [7]. Therefore, this study aims to explore the role of AI technology in enhancing employee experience and engagement, providing theoretical support and practical guidance for companies to effectively apply AI technology in HRM.

The remaining structure of this paper is as follows: the second part, the literature review, will summarize the current state of AI applications in HRM and existing research on its impact on employee experience and engagement; The third part, methodology, will detail the research design, data collection methods, sample selection, and data analysis techniques; The fourth part, data analysis, and results, will explain the main findings of this study through statistical analysis of the data; The fifth part, discussion, will deeply analyze the significance of the research results, discuss the challenges and limitations encountered during the research, and compare them with existing literature; The sixth part, conclusion, and recommendations, will summarize the findings of the study, provide practical suggestions, and indicate future research directions; The seventh part, references, will list all the cited literature; The appendix includes the questionnaire.

2. LITERATURE REVIEW

2.1 Human Resource Management

Human Resource Management (HRM) is the critical enterprise department responsible for recruitment, training, performance evaluation, compensation management, and employee relations management [1]. Traditional HRM processes include the following main functions. First, recruitment and selection, finding the most suitable candidates by posting job advertisements, screening resumes, and organizing interviews; Second, training and development, ensuring that new employees receive necessary training after onboarding to enhance their job capabilities [8]; Next performance management, regularly evaluating employees' job performance, setting goals for them, and providing feedback to motivate and improve their performance [9]; Additionally, there is compensation and benefits management, including salaries, bonuses, and various benefits to motivate employees and maintain their satisfaction; Finally, employee relations management aims to maintain and improve the

relationship between employees and management, handling employee complaints, conflicts, and other labor issues. The primary purpose of these processes is to help enterprises attract, retain, and develop excellent talent, thereby supporting the achievement of their strategic goals. However, with technological advancements, traditional HRM processes face challenges such as inefficiency and resource waste, requiring improvements to meet modern development needs.

2.2 Summary of Artificial Intelligence Technology

Artificial Intelligence (AI) is a field of study and development that simulates human intelligence. At the same time, Machine Learning (ML) is a significant branch of AI, mainly used to develop algorithms that can automatically learn and improve from data [10]. The basic principles of AI and ML include training models by collecting and processing large amounts of data, using various algorithms (such as decision trees, neural networks, and support vector machines) to build and train these models, and then using the trained models to predict new data and assist decision-making [11]. AI and ML technologies have been widely applied in various industries, such as financial services, healthcare, and retail, such as credit scoring, disease prediction, and personalized recommendations. AI and ML technologies significantly change traditional business operations by increasing efficiency, reducing costs, and enhancing decision-making capabilities [12].

2.3 The Application of AI in HRM

The application of AI technology in HRM is mainly reflected in the following aspects: first, through natural language processing (NLP) and machine learning algorithms, AI can automatically screen resumes, assess the match between candidates and positions, and schedule interviews, greatly improving recruitment efficiency [13]; Second, AI systems can provide objective performance evaluations by analyzing employee work data and behavior patterns, and develop personalized career development plans for employees based on this data [14]; In addition, AI can personalize training course recommendations and design customized training programs based on employees' skills and development needs [15]; By analyzing employee behavior data and historical records, AI can proactively predict which employees are likely to leave, thereby helping HR take preventive measures [16]; Finally, AI-driven chatbots can provide 24/7 employee support, answer common questions, and handle simple requests, thereby enhancing employee satisfaction and engagement [17]. Overall, AI technology can not only improve the efficiency of human resource management but also has a positive effect on enhancing employee experience and engagement.

2.4 Necessity of the Study

Although artificial intelligence technologies have been widely applied in many fields, their application in HRM has yet to address all potential challenges. In particular, employees' acceptance and adaptability to AI technologies have become key factors influencing their effectiveness in application. Recent research has focused on how AI can improve HRM efficiency, while studies on how employees perceive and adapt to this technology are relatively scarce. Therefore, this study will explore employees' acceptance of AI technologies and analyze how it impacts various HRM processes.

2.5 Research Gap

Although a large body of research has explored the impact of AI technologies on HRM efficiency, mployees' acceptance and adaptability to AI technologies remain relatively underexplored [1][2]. This study fills the research gap regarding

employees' acceptance of AI technologies and explores key issues within the HRM field. Through an in-depth analysis of employee acceptance and adaptability, this paper provides new perspectives for the academic community. It offers practical guidance for companies on better understanding employee needs and enhancing employee experience when implementing AI technologies.

3. RESEARCH MODELS AND HYPOTHESIS

3.1 Research Models

This study explores artificial intelligence's impact on human resource management processes. As artificial intelligence technology advances, its application in corporate management is becoming increasingly widespread. This study constructed two research models to understand the specific mechanisms of AI's role in this aspect, as shown in Figure 1.

In the first model, the impact of AI on HRM, employee experience and engagement, employee acceptance and adaptability, and perceived risk were used as independent variables. Job performance was used as the dependent variable, aiming to explore the impact of each independent variable on job performance. We believe that perceived risk may play a key moderating role in employees adopting and using artificial intelligence technology [22]. This is because high perceived risk may weaken the positive impact of AI on job performance, while low perceived risk may enhance this positive impact [23]. Therefore, in the second model, we used perceived risk as a moderating variable, the impact of AI on HRM, employee experience and engagement, employee acceptance and adaptability as independent variables, and job performance as the dependent variable to study the impact of the independent variables on job performance under the moderation of perceived risk.

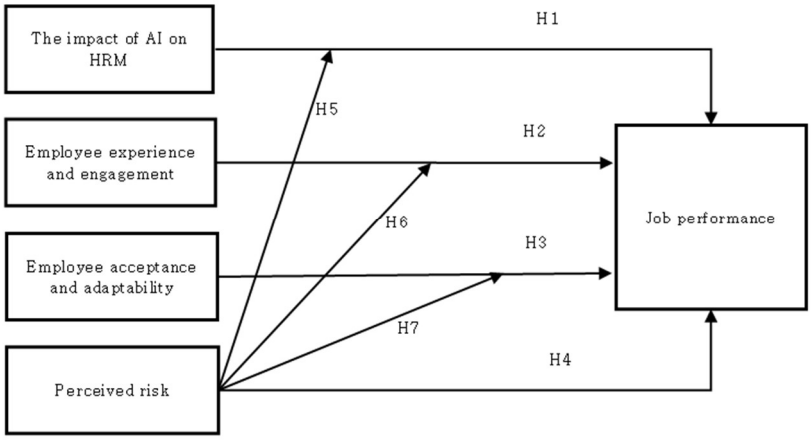

Figure 1: Research models on the impact of AI on HRM processes

3.2 Research Hypothesis

3.2.1 The impact of artificial intelligence on human resource management

The application of artificial intelligence technology in recruitment, training, performance evaluation, and other human resource management processes improves efficiency and enhances accuracy and fairness [6]. For example, AI-powered recruitment systems can quickly filter out the most suitable

candidates while reducing human bias, thereby improving recruitment quality [13]. AI-assisted training systems can customize personalized training methods based on employees' needs, thus enhancing training effectiveness [15]. The application of AI in performance evaluation provides objective data analysis, helping managers make fairer decisions [14]. All these factors will directly or indirectly improve employee job performance. Therefore, the following hypothesis is proposed:

H1: The impact of artificial intelligence on human resource management has a positive effect on improving employee job performance.

3.2.2 Employee experience and engagement

Using AI technology, employee experience and engagement are key factors in determining job performance [24]. Rich experience and engagement with AI will enable employees to face various challenges at work better, improving both efficiency and quality, thereby contributing to overall job performance improvement [24]. Therefore, the following hypothesis is proposed:

H2: Employee experience and engagement with AI positively impact job performance.

3.2.3 Employee acceptance and adaptability

Employees' acceptance and adaptability to artificial intelligence significantly impact job performance [25]. High acceptance means that employees are willing to adopt and use AI technology, which enables them to utilize AI more effectively to improve work efficiency. High adaptability indicates that employees can quickly adjust to the use of AI technology, greatly reducing the negative impact caused by technological changes [25]. Together, these factors will promote employees' job performance. Therefore, the following hypothesis is proposed:

H3: Employees' acceptance and adaptability to AI positively affect job performance.

3.2.4 Perceived risk

Perceived risk refers to the extent to which employees recognize the potential negative impacts of artificial intelligence technology. Lower perceived risk indicates a more positive attitude toward applying AI technology, reducing concerns about technological uncertainty and thus making employees more willing to adopt and use AI technology [23]. It will help improve the effectiveness of AI applications, enhancing job performance. Therefore, the following hypothesis is proposed:

H4: Perceived risk has a significant impact on the improvement of job performance.

4. METHODOLOGY

This study mainly employed quantitative research methods, collecting data through surveys and analyzing the obtained data using statistical analysis tools. The reason for using quantitative research methods is that this approach can effectively quantify the impact of artificial intelligence on human resource management processes and, through statistical analysis, further derive general conclusions applicable to a wide range of corporate environments.

Data was mainly collected through a survey containing 29 questions across five key dimensions, each question being multiple-choice, to gather respondents' views on the application of artificial intelligence in human resource management. Specific content includes basic information (questions 1~3), covering age, gender, and education; the impact of artificial intelligence on human resource management (questions 4~8), used to evaluate the effectiveness of AI in recruitment processes, training and development, performance evaluation, employee satisfaction, and decision-

making. Employee experience and engagement (questions 9~14) were used to assess the impact of AI on job satisfaction, task completion efficiency, work transparency, communication and collaboration, and work innovation. Employee acceptance and adaptability (questions 15~18), used to explore the difficulty of learning to use AI tools, attitudes toward continued use of AI, pre-use emotions, and adaptation speed. Perceived risks (questions 19~23) were used to evaluate respondents' concerns about job security, data breach risks, workflow errors, job satisfaction, and the importance of human decision-making. And business outcomes (question 24~29), including evaluations of teamwork efficiency, customer satisfaction, business revenue, market competitiveness, operational costs, and innovation capability. The questionnaire was mainly distributed to respondents via an online platform, and data collection was conducted over the past six months to ensure the timeliness and relevance of the data.

The sample was selected based on the criterion that respondents must be employees engaged in human resource management or other management work in the enterprise and have used AI-supported tools or platforms in the past year. A total of 206 valid questionnaires were collected, and respondents' basic information, including age, gender, and education, was recorded to ensure the statistical analysis of the research results is significant and representative.

Data analysis was mainly conducted using SPSS software, including the entire data cleaning, processing, and analysis process. Firstly, reliability and validity tests were performed on the raw data to ensure the reliability and validity of the questionnaire data, followed by the use of descriptive statistical methods to summarize and describe the basic characteristics of the data. Subsequently, correlation analysis was conducted on data across various dimensions to explore relationships between different variables, followed by multiple linear regression analysis to assess the extent of AI technology's impact on numerous aspects of human resource management.

Through these methods, this study aims to systematically analyze and quantify the impact of artificial intelligence technology on human resource management processes, providing data support and a theoretical basis for the practice of human resource management.

5. DATA ANALYSIS AND RESULTS

5.1 Descriptive Analysis

A total of 206 individuals engaged in human resource management or other managerial roles participated in the "Survey on the Impact of Artificial Intelligence on Human Resource Management Processes," and all respondents had used AI-supported tools or platforms in the past year. As shown in Table 1, the proportion of male and female respondents is nearly equal, with a slight majority of females. The respondents' age distribution is diverse, indicating that individuals at different stages of their careers show high levels of attention to the application of AI in their work. Among the respondents, over half (54.85%) hold a bachelor's degree, with 31.55% having a master's degree and 13.59% holding a doctoral degree. It indicates that the respondents have a high level of education, allowing them to understand better and evaluate the application of AI in their work. Based on this, the respondents' profiles align with the survey's requirements for respondent types.

Table 1: Demographic results

Attribute	Category	Frequency	Percentage
Gander	Male	100	48.5
	Female	106	51.5
Age	20~29 years old	71	34.5
	30~39 years old	77	37.4
	40~49 years old	58	28.2
Education level	Bachelor	113	54.9
	Master	65	31.6
	Doctor	28	13.6

This study used Cronbach's Alpha coefficient to analyze the internal consistency of the questionnaire. According to Nunnally's (1978) standard, an Alpha value greater than 0.7 indicates that the scale has good reliability [20]. Table 2 shows the Cronbach's Alpha values for each dimension and the overall scale.

Table 2: Cronbach's Alpha values for each dimension and the overall scale

Construct	Alpha	Number of items
The impact of AI on HRM	0.841	5
Employee experience and engagement	0.772	6
Employee acceptance and adaptability	0.807	4
Perceived risk	0.833	5
Job performance	0.897	6
Overall dimension	0.936	26

As shown in Table 2, the Alpha values for each dimension range from 0.772 to 0.897, indicating that all questionnaire dimensions have good internal consistency. The Alpha value for the "Employee Experience and Engagement" dimension is 0.772, slightly lower than other dimensions but within an acceptable range. The overall scale's Alpha value is 0.936, demonstrating that the questionnaire is highly reliable and well-suited as a research tool.

To evaluate the validity of the questionnaire, this study used the KMO and Bartlett's sphericity tests [21]. The KMO value can be used to assess whether the data is suitable for factor analysis. When the KMO value is greater than 0.7, it indicates that the data is suitable for factor analysis. Table 3 presents the KMO values for each dimension and the overall scale.

Table 3: The KMO values for each dimension and the overall scale

Construct	KMO	Number of items
The impact of AI on HRM	0.850	5
Employee experience and engagement	0.756	6
Employee acceptance and adaptability	0.781	4
Perceived risk	0.849	5

Job performance	0.903	6
Overall dimension	0.927	26

As shown in Table 3, the KMO values for each dimension range from 0.756 to 0.903, indicating that the data for each dimension is suitable for factor analysis. The KMO value for the "Employee Experience and Engagement" dimension is 0.756, slightly lower than other dimensions but still within the acceptable range for factor analysis. The overall scale's KMO value is 0.927, indicating that the data from the entire questionnaire is highly suitable for factor analysis.

Based on the above data, we can conclude that the reliability and validity of this study's questionnaire have reached good standards. The questionnaire has high internal consistency and construct validity, making it suitable as a measurement tool for further empirical research.

To fully understand the basic situation of each dimension, this study conducted descriptive statistical analysis for each dimension. Table 4 presents each dimension's sample size, minimum value, maximum value, mean, and standard deviation.

Table 4: Descriptive statistical results for each dimension

	N	Minimum value	Maximum value	Average	Standard deviation
The impact of AI on HRM	206	1.20	5.00	3.9476	.85766
Employee experience and engagement	206	1.50	5.00	3.7476	.81212
Employee acceptance and adaptability	206	1.25	5.00	3.6080	1.04189
Perceived risk	206	1.00	5.00	3.6456	.98241
Job performance	206	1.33	5.00	3.5850	1.05045

According to the results in Table 4, respondents generally believe that AI has a positive impact on improving HRM efficiency as well as enhancing employee experience and engagement. Regarding employee acceptance and adaptability, while respondents have a high acceptance and adaptability to AI technology, the wide distribution of scores reflects individual differences. However, regarding perceived risk and job performance, respondents' evaluations appear neutral with a wide distribution, reflecting diverse perceptions of the effectiveness of AI applications.

The study conducted a Pearson correlation analysis to explore the relationships between the dimensions, and Table 5 shows the results.

Table 5: Correlation coefficients between the dimensions

	The impact of AI on HRM	Employee experience and engagement	Employee acceptance and adaptability	Perceived risk	Job performance

The impact of AI on HRM	1				
Employee experience and engagement	0.671**	1			
Employee acceptance and adaptability	0.376**	0.764**	1		
Perceived risk	0.442**	0.641**	0.701**	1	
Job performance	0.434**	0.557**	0.521**	0.591**	1

** The correlations are significant at the 0.01 level.

The results in Table 5 indicate positive correlations between all dimensions, which are significant at the 0.01 level. The "Employee Experience and Engagement" dimension shows robust correlations with other dimensions, suggesting that it plays a key role in influencing other variables. These significant correlation results provide a foundation for further regression analysis.

In Model 1, to explore the impact of each independent variable on the dependent variable "Job performance," this study conducted multiple linear regression analysis. Table 6 presents the detailed results of the regression analysis, including regression coefficients (β), t-values, significance levels, and collinearity diagnostics (tolerance and VIF), among others.

Table 6: Regression analysis results

Job performance	**Regression coefficients**	**t**	**Significance probability**	**Tolerance**	**VIF**
The impact of AI on HRM	0.123	1.595	0.112	0.492	2.032
Employee experience and engagement	0.176	1.603	0.110	0.244	4.096
Employee acceptance and adaptability	0.086	0.881	0.379	0.305	3.278
Perceived risk	0.363	4.589	0.000	0.469	2.133
Change in F	35.011				
Adjusted R-squared	0.399				
Durbin-Watson	2.047				

The Durbin-Watson statistic for this regression model is 2.047, close to 2, indicating no autocorrelation among the residuals. The results of the multiple linear regression analysis show that the independent variable "perceived risk" has a significant positive impact on the dependent variable "job performance," while the effects of other independent variables on "job performance" are not significant in this model. Although the VIF value for the independent variable "employee experience and engagement" is slightly high, it does not exceed the threshold of 5, indicating no serious multicollinearity issues. The adjusted R-squared

value of the model is 0.399, the F value is 35.011, and the significance is 0.000, indicating that the model has a good explanatory power for job performance.

To validate the effect of the independent variables on the dependent variable (Job performance) under the moderation of the moderating variable (Perceived risk) in Model 2, this study also conducted a regression analysis. Figure 2 shows the results. The regression coefficient of the impact of AI on HRM on job performance under the moderation of perceived risk is 0.149. Although this coefficient is positive, its effect is not significant. Under the moderation of perceived risk, the regression coefficient of employee experience and engagement on job performance is -0.261. It is significant at the 0.05 level, indicating that employee experience and engagement significantly negatively impact job performance under the influence of perceived risk. The regression coefficient of employee acceptance and adaptability on job performance under the moderation of perceived risk is 0.346. It is significant at the 0.01 level, indicating that employee acceptance and adaptability have a significant positive impact on job performance under the moderation of perceived risk. The adjusted R-squared value of the model is 0.442, the F value is 24.160, the significance is 0.000, and the Durbin-Watson statistic is 2.107, indicating that the model has good overall fit and robust explanatory power.

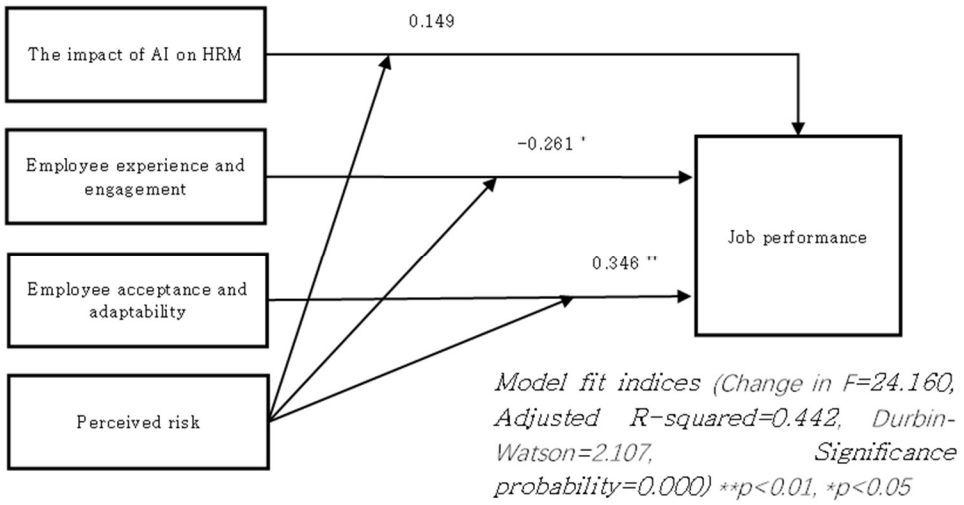

Figure 2: Structural model fit

5.2 Results Analysis and Key Findings

In summary, this study validated the impact of artificial intelligence on human resource management processes through reliability testing, validity testing, descriptive statistical analysis, correlation analysis, and multiple linear regression analysis. The results indicate that respondents generally believe AI positively impacts improving HRM efficiency, enhancing employee experience, and increasing engagement, which corroborates the findings of previous studies [13]17]. Regarding employee acceptance and adaptability, although there are individual differences, respondents still show high acceptance and adaptability to AI technology. Additionally, in Model 1, perceived risk has a significant positive impact on job performance, while the effects of other independent variables on

job performance are not significant in this model. In Model 2, which measures the moderating effect of perceived risk in each hypothesis, employee experience and engagement, as well as employee acceptance and adaptability, have significant negative and positive impacts on job performance under the moderation of perceived risk, respectively. It suggests that perceived risk is an important factor influencing job performance when introducing AI technology and should be emphasized in management strategies. Meanwhile, there is a strong correlation between the "employee experience and engagement" dimension and other dimensions, highlighting its crucial role in applying AI in HRM processes.

6. DISCUSSION

6.1 Significance of the Conclusion

This study delves into the impact of artificial intelligence on human resource management processes. First, the results show that the introduction of AI technology can significantly improve the efficiency of HRM. Specifically, companies can complete recruitment processes and employee management tasks more quickly through automated resume screening, intelligent job matching, and performance evaluations [6]. This improvement in efficiency reduces the workload of HR departments, enhances the quality of work, and lowers the likelihood of human error.

AI has also demonstrated positive effects in improving employee experience and increasing engagement. By utilizing personalized training programs and intelligent employee care systems, employees can experience better work conditions and more attention and support [7]. It helps increase employee satisfaction and engagement and creates a more positive work environment and culture.

The study also shows that although there are individual differences in employees' acceptance and adaptability to AI technology, respondents generally exhibit high acceptance and adaptability toward AI. It suggests that as AI technology becomes more widespread and continues to evolve, employee recognition of it is also increasing, further promoting AI's application in HRM.

Additionally, this study found that perceived risk has a significant positive impact on job performance, and employee experience and engagement, as well as employee acceptance and adaptability, have significant negative and positive effects on job performance under the moderation of perceived risk, respectively. This finding highlights the importance of perceived risk in the process of introducing AI technology and its impact on job performance. Companies must focus on and manage employees' perceived risk when implementing AI technology to ensure its application improves performance.

Finally, the research results show that the "Employee Experience and Engagement" dimension strongly correlates with other dimensions, indicating its crucial role in applying AI in HRM processes. From this perspective, enhancing employee experience and engagement is not only a key factor in the successful application of AI technology in enterprises but also an important strategy for improving the efficiency and effectiveness of HRM.

In conclusion, the results of this study provide in-depth insights into the various impacts of AI on human resource management processes. By improving HRM efficiency, enhancing employee experience and engagement, and managing perceived risk, AI technology can significantly improve HRM processes. Companies should fully leverage these technological advantages while implementing appropriate management strategies to

maximize the effectiveness of AI in HRM. It increases operational efficiency and helps create a more attractive and competitive working environment.

The research results show that respondents generally believe AI positively improves HRM efficiency, enhances employee experience, and increases engagement. This finding aligns with previous research conclusions, further reinforcing the practical application value of AI technology in the HRM field [13-17].

6.2 Challenges and Limitations

Despite the findings of this study, we encountered several challenges and limitations: First, the sample size was small and primarily focused on tech companies, which may limit the representativeness of the results. Secondly, the application of AI technology in HRM is still in its early stages, with many companies not fully implementing or utilizing these technologies, greatly limiting the depth of the study. Additionally, there may be biases and technical limitations in data collection, which could affect the accuracy of the results. Future research can address these challenges and limitations.

7. CONCLUSION

7.1 Unique Contributions of the Study

Although extensive research has explored the application of artificial intelligence in HRM, particularly in improving recruitment efficiency and performance management [1][2], most studies have focused on the application of technology and efficiency improvements, neglecting employee acceptance and adaptability to AI technologies and how these influences various aspects of HRM. The unique contribution of this study lies in, firstly, shifting the focus from traditional technical performance analysis to employees' perceptions and reactions to AI technologies. Through a survey, we explored employees' attitudes toward AI technologies in depth and analyzed how these attitudes affect their engagement, satisfaction, and career development at work. Secondly, while many studies have pointed out AI's potential in enhancing HRM efficiency, there is a lack of in-depth discussion on the specific mechanisms by which AI improves employee experience and engagement. This study not only validates the practical benefits of AI technologies in recruitment and performance management but also reveals, through the analysis of employee emotional and behavioral data, how AI plays a role in enhancing employee satisfaction and reducing turnover risk.

7.2 Research Summary

This study explores the impact of artificial intelligence (AI) on human resource management (HRM) processes. A literature review and a survey reveal AI's significant role in improving HRM efficiency and enhancing employee experience and engagement. The survey collected feedback from HR professionals and employees and, combined with quantitative analysis methods, it validated the role of artificial intelligence (AI) in improving HRM efficiency and enhancing employee experience. Specifically, the survey data showed that over 75% of participants believed AI technologies could significantly improve the efficiency of the recruitment process. In comparison, more than 70% of employees indicated that the personalized career development advice provided by AI enhanced their job satisfaction. Additionally, the application of AI technologies in performance evaluation was highly rated, with more than 65% of respondents believing that AI could provide more objective and accurate performance feedback. These data support our conclusions on AI's role in improving HRM efficiency and employee experience. The study also shows that AI technology is valuable in key HRM

processes such as resume screening, job matching, performance data analysis, and employee sentiment monitoring [6]. The results indicate that the application of AI technology not only improves HR departments' efficiency and decision-making accuracy but also creates more value for companies.

7.3 Practical Recommendations

Based on the results of this study, we offer the following recommendations for HR professionals. First, to simplify the recruitment process, AI-driven resume screening tools can quickly filter many candidates, saving time and human resources. Machine learning algorithms can also be employed for precise matching based on job requirements and candidate characteristics, thereby increasing the success rate of recruitment [13]. Secondly, optimize employee performance management by analyzing employees' work data and metrics through AI technology to provide objective and real-time performance feedback, helping employees achieve continuous improvement [14]. At the same time, based on AI analysis results, personalized career development and training plans can be developed for employees to promote their growth [15].

Furthermore, it improves employee satisfaction and retention by using AI technology to monitor employee emotions, timely identifying potential issues, and taking appropriate measures to enhance employee satisfaction [18]. In addition, AI predictive models can identify employees at risk of turnover, allowing for proactive retention measures to reduce employee attrition rates [16]. Finally, it emphasizes data privacy and ethical management. When using AI technology, strict compliance with data privacy regulations is necessary to protect employee personal information. Establish ethical guidelines for AI applications to ensure fair and just use of technology, avoiding potential biases or discrimination [19].

7.4 Future Research Directions

Although this study has yielded some findings, many areas warrant further exploration. Future research can explore the following aspects: First, cross-industry comparative studies. Given that HRM processes and needs differ across industries, future studies could compare the effects and challenges of AI technology applications in various fields, providing references for broader application research. Secondly, long-term tracking studies could involve prolonged observation to analyze how the application effects of AI in HRM change over time, providing data support for ongoing improvements. Additionally, with the continuous advancement of AI technology, future research could focus on the innovative applications of emerging technologies (such as natural language processing, deep learning, etc.) in HRM. In the future, exploring these research directions will help achieve a comprehensive understanding and effective utilization of AI technology, further promoting innovation and sustainable development in the HRM field.

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Appendix: Questionnaire items

The impact of AI on HRM	A1: What do you think about the effectiveness of AI technology in simplifying the recruitment process?	1	2	3	4	5
	A2: What is the role of AI in enhancing the efficiency of employee training and development?	1	2	3	4	5
	A3: What are your thoughts on the fairness of employee performance evaluations using AI technology?	1	2	3	4	5
	A4: To what extent does AI technology improve employee satisfaction and engagement?	1	2	3	4	5
	A5: How does the introduction of AI technology in HR management impact the improvement of the decision-making process?	1	2	3	4	5
Employee experience and engagement	B1: Do you think applying AI technology in your work environment has increased your job satisfaction?	1	2	3	4	5
	B2: If you used AI-supported tools, did they help you complete your tasks more effectively?	1	2	3	4	5
	B3: How effective is AI technology in increasing work transparency?	1	2	3	4	5
	B4: Has AI technology helped improve communication and collaboration with your colleagues?	1	2	3	4	5
	B5: Do you believe AI technology has played a positive role in enhancing your engagement at work?	1	2	3	4	5
	B6: To what extent do you think AI technology helps increase innovation and creative expression in your work?	1	2	3	4	5
Employee acceptance and adaptability	C1: How difficult is it learning to use AI tools in your work?	1	2	3	4	5
	C2: Are you open to continuously using AI technology in your daily work?	1	2	3	4	5
	C3: Before introducing of AI technology in your work, how did you feel about using such technologies?	1	2	3	4	5
	C4: What is your adaptation speed to the newly introduced AI tools?	1	2	3	4	5
Perceived risk	D1: Do you think using AI technology in daily work could threaten job security?	1	2	3	4	5
	D2: Could introducing AI technology increase the risk of data breaches or privacy violations?	1	2	3	4	5
	D3: Are you concerned that the use of AI technology could increase errors during work processes?	1	2	3	4	5
	D4: Do you think the use of AI technology will have a positive impact on your job satisfaction?	1	2	3	4	5
	D5: Do you think using AI technology could reduce the	1	2	3	4	5

	importance of human decision-making in the workplace?					
Job performance	E1: Do you think using AI technology has improved your team's efficiency?	1	2	3	4	5
	E2: What changes in customer satisfaction have you observed after implementing AI technology?	1	2	3	4	5
	E3: To what extent do you think AI technology has contributed to increased business revenue in your field?	1	2	3	4	5
	E4: What impact do you think using AI technology has on your company's market competitiveness?	1	2	3	4	5
	E5: How effective do you think AI technology reduces operational costs?	1	2	3	4	5
	E6: How do you evaluate the role of AI technology in innovation and the development of new products/services?	1	2	3	4	5