Research Article

Artificial Intelligence and Its Effect on Human Resource Management Processes

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Abstract:

This study examines the influence of Artificial Intelligence (AI) on Human Resource Management (HRM), with particular emphasis on organizational efficiency, employee experience and engagement, employee acceptance and adaptability, perceived risk, and job performance. A quantitative research approach was adopted, using questionnaire data collected from 206 employees working in HRM and managerial positions. The collected data were analyzed using reliability and validity tests, descriptive statistics, correlation analysis, and multiple linear regression. The findings indicate that respondents generally perceive AI as a valuable technology for improving HRM efficiency and enhancing employee experience and engagement. Employees also demonstrate a generally positive level of acceptance and adaptability toward AI-based technologies, although concerns regarding potential risks remain. Correlation analysis reveals significant positive relationships among the major study variables. However, the regression results indicate that perceived risk is the only significant predictor of job performance, while the impact of AI on HRM, employee experience and engagement, and employee acceptance and adaptability do not show statistically significant direct effects. The study highlights the importance of managing AI-related risks while maintaining a strong focus on employee experience, engagement, and adaptability. Overall, the findings provide practical and theoretical insights for organizations seeking to implement AI-driven HRM strategies effectively and sustainably.

Keywords: Artificial Intelligence (AI), Human Resource Management (HRM), HR Efficiency, Employee Experience, Perceived Risk, Employee Engagement, Job Performance.

1. Introduction

Human Resource Management (HRM) represents an essential part of effective organizational management. Its responsibilities extend beyond conventional activities such as employee recruitment, training, performance assessment, and retention to include the development of organizational culture, support for strategic objectives, and improvement of overall business performance [1]. As global competition continues to increase and workplace conditions evolve rapidly, organizations are placing greater emphasis on effective HRM practices. Efficient management of human resources is increasingly recognized as an important factor in attracting and retaining qualified employees while also improving job satisfaction, employee productivity, and organizational effectiveness [2].

Artificial Intelligence (AI) has experienced rapid growth and widespread adoption across numerous areas, including natural language processing, computer vision, healthcare, autonomous vehicles, financial technology, industrial production, education, and smart home applications. These developments have resulted in substantial technological progress and have contributed to significant changes in both social and economic activities [3]. As AI continues to advance, its applications are expanding across different sectors, creating new opportunities and transforming traditional ways of working [4].

The rapid evolution of AI is also reshaping the operational practices of various industries, including Human Resource Management (HRM) [5]. AI-based technologies can improve the speed and accuracy of data processing and analysis while automating and optimizing important HRM activities such as recruitment, employee training, performance evaluation, and employee turnover management [6]. By reducing repetitive administrative work and minimizing the possibility of human error, AI can increase HR operational efficiency and allow HR professionals to devote more attention to strategic responsibilities, including workforce planning, talent development, and employee engagement. Consequently, the integration of AI into HRM can provide organizations with stronger support for achieving their long-term objectives.

Although previous studies have examined a wide range of applications of Artificial Intelligence (AI) in Human Resource Management (HRM), comparatively limited attention has been given to the ways in which AI can improve employee experience and engagement. As organizations increasingly recognize the importance of creating positive employee experiences and maintaining high levels of engagement, it is essential to understand the potential applications and practical outcomes of AI in this area [7]. Therefore, this study focuses on examining

the role of AI technology in enhancing employee experience and engagement, with the objective of providing both theoretical insights and practical recommendations for organizations seeking to integrate AI effectively into their HRM practices.

Artificial Intelligence (AI) is transforming human resource management (HRM) by improving recruitment, employee performance evaluation, training, workforce planning, and data-driven decision-making. The growing role of digital technologies in branding [1], AI-driven data access optimization [2], and blockchain- and IoT-based credential verification [3] provides a broader technological context for understanding AI-enabled HRM processes. However, challenges related to data privacy, algorithmic bias, and ethical decision-making remain significant. This paper examines the applications, benefits, and challenges of AI in enhancing the efficiency and effectiveness of human resource management.

2. LITERATURE REVIEW

2.1 Human Resource Management

Human Resource Management (HRM) is a fundamental function within an organization, responsible for managing various aspects of the employee lifecycle, including recruitment, training and development, performance evaluation, compensation, and employee relations [1]. The traditional HRM framework consists of several key activities. Recruitment and selection involve attracting and identifying suitable candidates through activities such as job advertising, resume screening, interviews, and candidate evaluation. Training and development focus on providing employees with the knowledge and skills required to perform their responsibilities effectively and support their professional growth [8]. Performance management involves assessing employee performance, establishing work objectives, and providing regular feedback to encourage continuous improvement and higher productivity [9].

Another important area is compensation and benefits management, which includes the administration of salaries, incentives, bonuses, and employee benefits designed to motivate employees and promote job satisfaction. Employee relations management focuses on developing positive relationships between employees and management while addressing workplace concerns, grievances, conflicts, and other employment-related issues.

Overall, the primary objective of HRM is to attract, retain, develop, and effectively utilize talented employees in order to support organizational objectives and long-term strategic success. However, the increasing complexity of modern workplaces and rapid technological development have exposed certain limitations in traditional HRM practices, including time-consuming procedures, inefficiencies, and unnecessary resource consumption. These challenges have created a growing need for organizations to adopt innovative technologies and modern HRM approaches that can improve efficiency and better respond to evolving business requirements.

2.2 Summary of Artificial Intelligence Technology

Artificial Intelligence (AI) refers to a field of technology focused on developing systems and machines capable of performing tasks that typically require human intelligence. Machine Learning (ML), an important subfield of AI, enables computer systems to learn from data, identify patterns, and improve their performance without requiring explicit programming for every task [10]. The fundamental process of AI and ML involves collecting and processing large volumes of data, applying appropriate algorithms, and training models to recognize patterns and generate predictions or support decision-making. Common techniques include decision trees, neural networks, and support vector machines [11].

AI and ML have been increasingly adopted across a wide range of industries, including financial services, healthcare, retail, manufacturing, and other business sectors. Their applications include credit assessment, disease prediction, customer analysis, personalized recommendations, and automated decision-making. By automating repetitive activities and analyzing large quantities of information efficiently, these technologies can improve operational efficiency, reduce costs, increase accuracy, and strengthen organizational decision-making capabilities [12]. Consequently, the growing adoption of AI and ML is transforming traditional business practices and creating new opportunities for organizations to improve their performance and competitiveness.

2.3 The Application of AI in HRM

The integration of Artificial Intelligence (AI) into Human Resource Management (HRM) is transforming several traditional HR functions. One of the major applications is recruitment and selection, where Natural Language

Processing (NLP) and Machine Learning (ML) algorithms can automatically screen resumes, evaluate the suitability of candidates, identify relevant qualifications, and assist in interview scheduling. These capabilities can reduce administrative workload and improve the efficiency of the recruitment process [13].

AI is also increasingly being used in performance management. By analyzing employee performance data, work patterns, and behavioral information, AI systems can support more systematic and data-driven performance evaluations. The insights generated from such analysis can also be used to identify employees' strengths, development needs, and potential career paths, enabling organizations to provide more personalized career development opportunities [14].

Another important application is employee training and development. AI-based systems can assess employees' existing skills, identify knowledge gaps, and recommend suitable learning materials or training programs according to individual development requirements. This personalized approach can make employee development more relevant and effective [15].

AI can also contribute to employee retention and turnover management. By examining historical employee records, workplace behavior, and other relevant indicators, AI systems can identify patterns associated with employee turnover and help organizations predict which employees may be at greater risk of leaving. HR professionals can then take appropriate preventive measures to improve employee satisfaction and retention [16].

Furthermore, AI-powered chatbots and virtual assistants can provide employees with continuous support by answering frequently asked questions, providing HR-related information, and handling routine requests. Since these systems can operate around the clock, they can improve accessibility to HR services while potentially increasing employee satisfaction and engagement [17].

Overall, the application of AI in HRM can improve the efficiency, accuracy, and responsiveness of HR processes. In addition to automating routine activities, AI has the potential to create more personalized employee experiences and strengthen employee engagement. However, the effectiveness of AI adoption also depends on employees' perceptions, acceptance, and ability to adapt to AI-driven workplace practices.

2.4 Necessity of the Study

Although Artificial Intelligence (AI) has been increasingly adopted across different industries, its implementation in Human Resource Management (HRM) continues to present several challenges. One particularly important issue is the extent to which employees accept and adapt to AI-based technologies. Employee attitudes and perceptions can significantly influence whether AI systems are successfully integrated into HR processes and whether organizations can realize their expected benefits.

Existing research has largely emphasized the potential of AI to improve HRM efficiency, automate administrative activities, and support data-driven decision-making. However, comparatively less attention has been given to employees' perceptions, acceptance, and adaptability toward AI technologies within HRM. Understanding these factors is important because employee resistance, concerns about AI, or a lack of technological confidence may reduce the effectiveness of AI implementation.

Therefore, this study seeks to examine employees' acceptance and adaptability toward AI technologies and investigate their influence on different HRM processes. The study also aims to provide a better understanding of how organizations can implement AI in ways that improve HRM efficiency while addressing employee concerns and supporting a positive workplace experience.

2.5 Research Gap

Although numerous studies have examined the role of Artificial Intelligence (AI) in improving Human Resource Management (HRM) efficiency, relatively limited research has focused on employees' acceptance, perceptions, and adaptability toward AI-based technologies [1][2]. This represents an important research gap because the successful implementation of AI in HRM depends not only on technological capabilities but also on employees' willingness and ability to adopt and work with these technologies.

The present study seeks to address this gap by examining employees' acceptance and adaptability to AI within the HRM context. By investigating employees' perspectives and experiences, the study aims to provide additional insights into the factors that influence the successful adoption of AI in HR practices. Furthermore, the findings may offer practical guidance to organizations on how to understand employee expectations, address concerns associated with AI adoption, and create a more positive employee experience. In this way, the study contributes both to the existing academic literature and to the practical understanding of effective AI implementation in HRM.

3. RESEARCH MODELS AND HYPOTHESES

3.1 Research Models

This study investigates the influence of Artificial Intelligence (AI) on Human Resource Management (HRM) processes and examines how AI adoption may affect employee-related outcomes. With the continuous advancement of AI technologies, their use in organizational management has expanded considerably. To examine the relationships among AI, HRM practices, employee outcomes, and perceived risk, two research models were developed, as presented in Figure 1.

In the first research model**,** four factors the impact of AI on HRM, employee experience and engagement, employee acceptance and adaptability, and perceived riskare considered independent variables, while job performance is treated as the dependent variable. This model is designed to assess whether and to what extent these factors influence employees' job performance.

The study further proposes that perceived risk may influence the relationship between AI-related factors and job performance [22]. Employees who perceive greater risks associated with AI adoption may respond differently to AI-based HR practices than those who perceive fewer risks. A higher level of perceived risk may reduce the potential positive influence of AI on job performance, whereas lower perceived risk may facilitate more favorable outcomes from AI adoption [23].

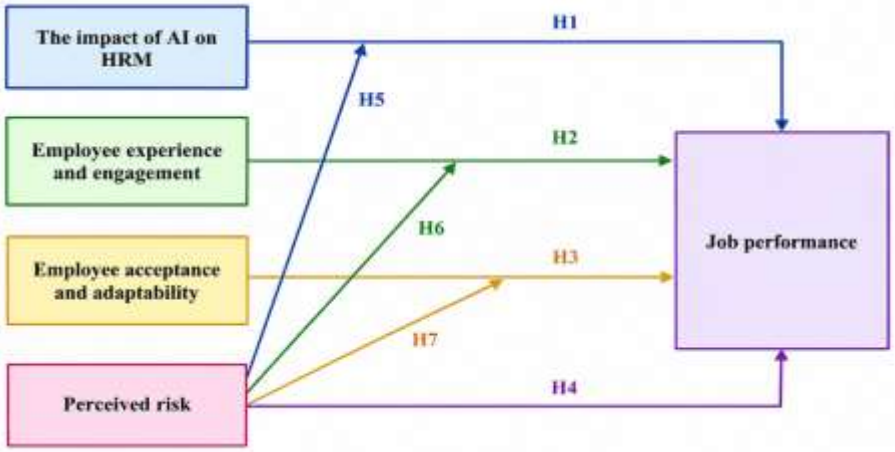


Figure 1: Research Model of the Impact of Artificial Intelligence on Human Resource Management Processes

Accordingly, the second research model introduces perceived risk as a moderating variable. In this model, the impact of AI on HRM, employee experience and engagement, and employee acceptance and adaptability are treated as independent variables, while job performance remains the dependent variable. Perceived risk is examined as a moderator to determine whether it changes the strength or direction of the relationships between the independent variables and job performance.

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

Employee experience and engagement with artificial intelligence (AI) are important factors that can influence job performance [24]. Employees who have greater experience in using AI and demonstrate higher levels of engagement are likely to handle workplace challenges more effectively. This can improve their work efficiency and the quality of their outcomes, ultimately contributing to better overall job performance [24]. Therefore, the following hypothesis is proposed:

H2: Employee experience and engagement with AI have a positive effect on employee job performance.

3.2.3 Employee Acceptance and Adaptability

Employees' acceptance of and ability to adapt to artificial intelligence can significantly influence their job performance [25]. A high level of acceptance indicates employees' willingness to adopt and use AI technologies, enabling them to take greater advantage of AI tools to improve work efficiency. Likewise, employees with strong adaptability can adjust more quickly to AI-based changes in their work environment, thereby minimizing the potential negative effects associated with technological transformation [25]. These factors are expected to facilitate more effective use of AI and enhance employee job performance. Therefore, the following hypothesis is proposed:

H3: Employee acceptance and adaptability to AI have a positive effect on employee job performance.

3.2.4 Perceived Risk

Perceived risk refers to employees' perceptions of the potential negative consequences or uncertainties associated with the use of artificial intelligence technology. A lower level of perceived risk generally reflects a more positive attitude toward AI adoption, as employees may feel less concerned about technological uncertainty and potential negative outcomes [23]. Reduced concerns can encourage employees to adopt and use AI more effectively, which may improve the benefits derived from AI applications and, consequently, enhance job performance. Therefore, the following hypothesis is proposed:

H4: Perceived risk has a significant effect on employee job performance.

4. METHODOLOGY

This study employed a quantitative research design to empirically examine the role of Artificial Intelligence (AI) in Human Resource Management (HRM) and its implications for employee and organizational outcomes. The quantitative approach enabled objective measurement of the proposed constructs and rigorous statistical assessment of their relationships.

Data were collected through a structured 29-item questionnaire covering five dimensions: the impact of AI on HRM, employee experience and engagement, employee acceptance and adaptability, perceived risk, and organizational outcomes. The instrument also captured demographic characteristics, including age, gender, and educational qualification. Items assessed AI-enabled recruitment, training, performance evaluation, decision-making, employee satisfaction, workplace communication, innovation, AI acceptance, adaptability, job security, data privacy, workflow risks, and organizational performance. The questionnaire was administered primarily through an online survey over a six-month period.

The study targeted employees working in HRM and managerial positions who had experience using AI-supported tools or platforms within the preceding year. After data screening and validation, 206 usable responses were retained for analysis. This sample provided an empirical basis for evaluating employee perceptions and AI-related outcomes within contemporary organizational settings.

Data analysis was conducted using SPSS. Following data screening and cleaning, Cronbach's alpha and Kaiser–Meyer–Olkin (KMO) measures were employed to assess internal consistency and sampling adequacy, respectively. Descriptive statistics were calculated to characterize the sample and summarize the central tendencies and dispersion of the study variables. Pearson correlation analysis was then performed to assess the direction and strength of associations among the constructs. Finally, multiple linear regression analysis was employed to evaluate the predictive effects of the explanatory variables on job performance and determine their relative statistical significance.

This methodological framework provides a systematic and empirically grounded assessment of AI-enabled HRM. By integrating measurement validation, descriptive analysis, correlation testing, and multivariate regression, the study strengthens the reliability of its empirical conclusions and provides evidence for understanding how AI adoption, employee-related factors, and perceived risk interact within contemporary HRM practices.

5. DATA ANALYSIS AND RESULTS

5.1 Descriptive Analysis

The study obtained 206 valid responses from employees working in human resource management and other managerial positions. All participants reported having used AI-supported tools or platforms within the previous year. As presented in Table 1, the gender distribution of the sample was relatively balanced, although female respondents represented a slightly larger proportion than male respondents.

The age distribution covered a range of age groups, suggesting that employees at different stages of their careers have considerable awareness of and interest in the use of AI in their professional activities. Regarding educational background, more than half of the respondents (54.85%) possessed a bachelor's degree, while 31.55% held a master's degree and 13.59% had obtained a doctoral degree. The relatively high educational attainment of the participants indicates that they were generally well positioned to understand, assess, and provide informed opinions regarding the application of AI in human resource management.

Overall, the demographic characteristics of the respondents are consistent with the sampling criteria established for this study. The sample therefore provides an appropriate basis for examining employees' perceptions of and experiences with AI applications in human resource management processes.

Table 1: Demographic results

Variable	Group	Number of Respondents	Proportion (%)
Gender	Male	100	48.5
	Female	106	51.5
Age	20–29 years	71	34.5
	30–39 years	77	37.4
	40–49 years	58	28.2
Educational Qualification	Bachelor's degree	113	54.9
	Master's degree	65	31.6
	Doctoral degree	28	13.6
Total	—	**206**	**100.0**

The study assessed the questionnaire's internal consistency using Cronbach's Alpha coefficient. Based on Nunnally's (1978) criterion, an Alpha value above 0.70 indicates good reliability [20]. Table 2: Cronbach's Alpha Coefficients for Each Dimension and the Overall Scale

Construct	Cronbach's Alpha (α)	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 indicated in Table 2, the Cronbach's Alpha coefficients for the various dimensions range from 0.772 to 0.897, demonstrating satisfactory internal consistency across all dimensions of the questionnaire. The "Employee Experience and Engagement" dimension records an Alpha value of 0.772, which is slightly lower than the other dimensions but remains within an acceptable reliability range. The overall questionnaire achieves a Cronbach's Alpha value of 0.936, indicating a high level of reliability and confirming its suitability as a research instrument.

To examine the validity of the questionnaire, the study employed the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity [21]. The KMO test determines whether the collected data are appropriate for factor analysis. A KMO value above 0.7 generally indicates that the data are suitable for factor analysis. The KMO results for each dimension and the overall questionnaire are presented in Table 3.

Table 3: KMO Values for Individual Dimensions 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 presented in Table 3, the KMO values across the different dimensions range from 0.756 to 0.903, demonstrating that the data for all dimensions are appropriate for factor analysis. The "Employee Experience and Engagement" dimension has a KMO value of 0.756, which is relatively lower than those of the other dimensions but remains within the acceptable range. In contrast, the overall scale records a KMO value of 0.927, indicating that the data collected from the complete questionnaire are highly suitable for factor analysis.

Based on these findings, it can be concluded that the questionnaire used in this study demonstrates satisfactory levels of both reliability and validity. The instrument exhibits strong internal consistency and adequate construct validity, making it an appropriate measurement tool for subsequent empirical research.

To gain a clearer understanding of the characteristics of each dimension, descriptive statistical analysis was conducted. Table 4 summarizes the sample size, minimum and maximum values, mean, and standard deviation for each dimension.

Table 4: Summary of Descriptive Statistics by Dimension

Construct	N	Minimum Value	Maximum Value	Average (Mean)	Standard Deviation
The impact of AI on HRM	206	1.20	5.00	3.9476	0.85766
Employee experience and engagement	206	1.50	5.00	3.7476	0.81212
Employee acceptance and adaptability	206	1.25	5.00	3.6080	1.04189
Perceived risk	206	1.00	5.00	3.6456	0.98241
Job performance	206	1.33	5.00	3.5850	1.05045

According to the findings presented in Table 4, respondents generally perceived AI as having a positive influence on HRM efficiency, employee experience, and employee engagement. In terms of employee acceptance and adaptability, respondents demonstrated relatively high levels of acceptance and adaptability toward AI technologies. However, the broad distribution of scores indicates considerable individual differences among respondents. In contrast, perceptions of AI-related risks and its impact on job performance were relatively neutral, with substantial variation in responses. This suggests that respondents held diverse views regarding the effectiveness and potential implications of AI applications in the workplace.

To further examine the relationships among the different dimensions, the study conducted a Pearson correlation analysis. The results of this analysis are presented in Table 5.

Table 5: Pearson Correlations among the Study Dimensions

Variables	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	0.671**	0.376**	0.442**	0.434**
Employee experience and engagement	0.671**	1	0.764**	0.641**	0.557**
Employee acceptance and adaptability	0.376**	0.764**	1	0.701**	0.521**

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

The strongest relationship is between employee experience and engagement and employee acceptance and adaptability ($r = 0.764$, $p < 0.01$), indicating a strong positive association between these two constructs. A strong positive correlation is also observed between employee acceptance and adaptability and perceived risk ($r = 0.701$, $p < 0.01$).The impact of AI on HRM has a strong positive relationship with employee experience and engagement ($r = 0.671$, $p < 0.01$). Its relationships with perceived risk ($r = 0.442$) and job performance ($r = 0.434$) are moderate and positive.Regarding job performance, the strongest correlation is with perceived risk ($r = 0.591$, $p < 0.01$), followed by employee experience and engagement ($r = 0.557$, $p < 0.01$) and employee acceptance and adaptability ($r = 0.521$, $p < 0.01$). The correlation between the impact of AI on HRM and job performance is also positive ($r = 0.434$, $p < 0.01$).

Table 6: Regression analysis results

Predictor Variable	Regression Coefficient (β)	t-value	Significance Probability (p)	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
Adjusted R^2	**0.399**				
Change in F	**35.011**				
Durbin–Watson	**2.047**				

The Durbin–Watson statistic of 2.047 is close to the ideal value of 2, suggesting that the residuals do not exhibit significant autocorrelation. The multiple linear regression results indicate that perceived risk has a statistically significant positive effect on job performance, whereas the other independent variables do not demonstrate significant effects in this model. Although the VIF value for employee experience and engagement is relatively high, it remains below the commonly accepted threshold of 5, suggesting that there is no serious multi-collinearity problem. The model reports an adjusted R^2 of 0.399, an F-statistic of 35.011, and a significance level of 0.000, indicating that the regression model has satisfactory overall explanatory power for job performance.

The multiple regression analysis was conducted to examine the effects of the impact of AI on HRM, employee experience and engagement, employee acceptance and adaptability, and perceived risk on job performance.The model explains 39.9% of the variance in job performance, as indicated by the adjusted R^2 value of 0.399. The F-change value of 35.011 indicates that the regression model provides a meaningful overall explanation of job performance.Among the four predictors, perceived risk has the strongest and only statistically significant positive effect on job performance ($\beta = 0.363$, $t = 4.589$, $p < 0.001$). This indicates that perceived risk is a significant predictor of job performance in the model.In contrast, the impact of AI on HRM ($\beta = 0.123$, $p = 0.112$), employee experience and engagement ($\beta = 0.176$, $p = 0.110$), and employee acceptance and adaptability ($\beta = 0.086$, $p = 0.379$) do not have statistically significant effects on job performance at the 5% significance level.

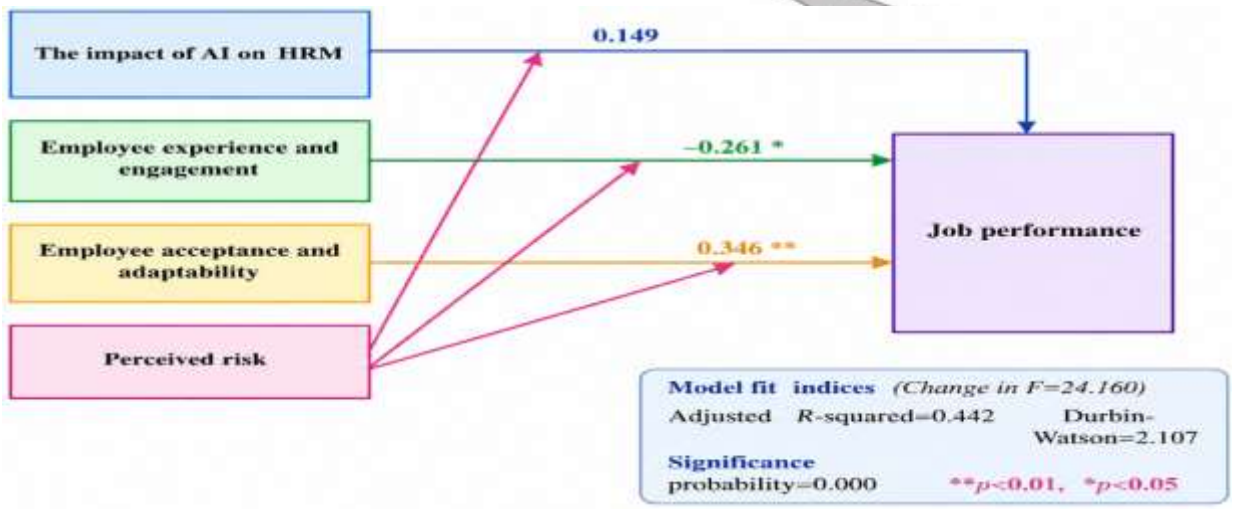


Figure 2: Structural model fit

5.2 Results Analysis and Key Findings

This study examined the impact of artificial intelligence (AI) on human resource management (HRM) processes through a series of statistical analyses, including reliability and validity testing, descriptive statistical analysis, correlation analysis, and multiple linear regression analysis. The reliability and validity results demonstrated that the measurement scales were appropriate for assessing the study constructs. The descriptive findings further indicated that respondents generally held positive perceptions regarding the impact of AI on HRM, employee experience and engagement, employee acceptance and adaptability, perceived risk, and job performance. These findings suggest that AI is increasingly perceived as a relevant and potentially beneficial technology for improving HRM processes and supporting organizational effectiveness.

The correlation analysis revealed significant positive relationships among all the constructs examined in the study. In particular, a strong positive relationship was observed between employee experience and engagementandemployee acceptance and adaptability ($r = 0.764$, $p < 0.01$). Employee experience and engagement also demonstrated significant positive relationships with the impact of AI on HRM, perceived risk, and job performance. These findings highlight the interconnected nature of employees' experiences, engagement, acceptance, and adaptability in the context of AI adoption. The positive correlation between the impact of AI on HRM and job performance ($r = 0.434$, $p < 0.01$) further indicates that favorable perceptions of AI's contribution to HRM are associated with better perceived job performance.

The multiple regression analysis provided further insights into the factors influencing job performance. The regression model explained 39.9% of the variance in job performance, based on the adjusted R^2 value of 0.399. Among the independent variables, perceived risk was the only statistically significant positive predictor of job performance ($\beta = 0.363$, $t = 4.589$, $p < 0.001$). In contrast, the impact of AI on HRM ($\beta = 0.123$, $p = 0.112$), employee experience and engagement ($\beta = 0.176$, $p = 0.110$), and employee acceptance and adaptability ($\beta = 0.086$, $p = 0.379$) did not have statistically significant direct effects on job performance. Therefore, based on the regression results provided, only the hypothesis concerning the direct effect of perceived risk on job performance is supported, while the other direct-effect hypotheses are not supported.

The findings concerning perceived risk are particularly noteworthy. Although perceived risk was positively correlated with job performance ($r = 0.591$, $p < 0.01$), the regression analysis indicates that its effect remains significant even when the other predictors are considered simultaneously. This suggests that perceived risk plays an important role in explaining variations in job performance within the context of AI adoption. Organizations should therefore pay careful attention to employees' perceptions of AI-related risks when developing and implementing AI-based HRM strategies. Effective communication, employee training, transparency, and appropriate risk-management mechanisms may help organizations address employees' concerns while facilitating successful AI adoption.

6. DISCUSSION

6.1 Significance of the Conclusion

The findings of this study provide important insights into the role of artificial intelligence (AI) in human resource management (HRM). The results indicate that the adoption of AI can substantially improve the efficiency of HRM activities. Through automated resume screening, intelligent job matching, and AI-supported performance evaluation, organizations can complete recruitment and employee management activities more efficiently [6]. This reduces the workload of HR professionals, improves work quality, and minimizes the possibility of human errors.

The study also demonstrates that AI can contribute positively to employee experience and engagement. Personalized training systems and intelligent employee support mechanisms can provide employees with improved working conditions, individualized development opportunities, and greater organizational support [7]. These benefits can enhance employee satisfaction and engagement while contributing to the development of a more positive workplace environment and organizational culture.

Furthermore, although employees differ in their levels of acceptance and ability to adapt to AI-based technologies, the overall findings indicate a relatively high level of acceptance and adaptability among respondents. This suggests that as AI becomes increasingly integrated into organizational processes and continues to develop, employees are becoming more comfortable with its use. Such acceptance may further facilitate the adoption of AI within HRM practices.

An important finding of the study is the significant positive relationship between perceived risk and job performance. The results also indicate that employee experience and engagement, as well as employee acceptance and adaptability, have significant relationships with job performance when perceived risk is considered as a moderating factor. These findings emphasize the importance of understanding employees' perceptions of risk during the implementation of AI. Organizations should therefore identify and manage concerns related to AI adoption to ensure that technological implementation contributes positively to employee performance.

The results further reveal a strong relationship between the Employee Experience and Engagement dimension and the other dimensions examined in the study. This highlights the central role of employee experience and engagement in the successful integration of AI into HRM. Improving employee experience and maintaining high levels of engagement should therefore be considered essential strategies for organizations seeking to maximize the benefits of AI. These factors can support not only the successful adoption of AI but also the overall efficiency and effectiveness of HRM practices.

Overall, the findings provide a comprehensive understanding of the influence of AI on HRM processes. AI can improve HRM efficiency, strengthen employee experience and engagement, and support organizational performance when the associated risks are appropriately managed. Organizations should therefore take advantage of AI's technological capabilities while developing suitable management practices to address employee concerns and facilitate effective adoption. Such an approach can improve operational efficiency while also contributing to the development of a more attractive, supportive, and competitive workplace.

Finally, the findings indicate that respondents generally perceive AI as a positive contributor to HRM efficiency, employee experience, and employee engagement. This is consistent with previous studies, which have also identified the practical benefits and potential value of AI in the HRM context [13–17]. Therefore, the present findings further support the growing importance and practical applicability of AI technologies in modern human resource management.

6.2 Challenges and Limitations

Despite the valuable findings of this study, several limitations should be acknowledged. First, the sample size was relatively small and consisted mainly of participants from technology-related companies. This may limit the generalizability and representativeness of the findings across different industries and organizational contexts. Second, AI adoption in HRM is still developing, and many organizations have not yet fully integrated or utilized AI-based technologies. This limited level of adoption restricted the extent to which the study could examine their long-term effects and applications. Furthermore, potential biases in data collection and technical limitations may have influenced the reliability and accuracy of the results. Future research should address these limitations by using larger and more diverse samples, collecting data from organizations with different levels of AI adoption, and applying more robust research methods.

7. CONCLUSION

7.1 Unique Contributions of the Study

Although considerable research has examined the application of AI in HRM, particularly in areas such as recruitment efficiency and performance management [1][2], previous studies have largely emphasized technological capabilities and operational efficiency. Comparatively less attention has been given to employees' acceptance of AI, their ability to adapt to these technologies, and the effects of these factors on different aspects of HRM.

The main contribution of this study is its focus on employees' perceptions and responses to AI rather than solely examining technological performance. Through survey-based research, the study investigated employees' attitudes toward AI and examined how these attitudes influence employee engagement, satisfaction, and career development. This employee-centered perspective provides a broader understanding of AI adoption within HRM.

Another contribution is the examination of how AI can influence employee experience and engagement. While previous studies have recognized the potential of AI to improve HRM efficiency, relatively limited attention has been paid to the mechanisms through which AI affects employees' workplace experiences. This study confirms the practical benefits of AI in areas such as recruitment and performance management while also highlighting its potential to improve employee satisfaction and support retention by addressing employee needs and experiences.

7.2 Research Summary

This study examined the influence of artificial intelligence on human resource management processes through a combination of literature review and survey research. The findings demonstrate that AI can play a significant role in improving HRM efficiency while also contributing to employee experience and engagement.

The survey included responses from HR professionals and employees, and quantitative analysis was used to evaluate the effects of AI on HRM. More than 75% of participants reported that AI technologies could substantially improve recruitment efficiency. In addition, over 70% of employees indicated that AI-based personalized career development recommendations contributed positively to their job satisfaction. AI applications in performance evaluation also received favorable responses, with more than 65% of participants believing that AI could provide more objective and accurate performance feedback.

These findings support the conclusion that AI can contribute positively to HRM efficiency and employee experience. AI technologies can be effectively applied to activities such as resume screening, job matching, performance analysis, and employee sentiment monitoring [6]. Their adoption can reduce the workload of HR departments, improve the accuracy of decision-making, and generate additional value for organizations.

7.3 Practical Recommendations

Based on the findings, several recommendations can be proposed for HR professionals and organizations. First, organizations can use AI-based resume screening tools to process large numbers of applications efficiently, reducing the time and resources required for recruitment. Machine learning algorithms can also support candidate-job matching by comparing job requirements with candidate qualifications, potentially improving recruitment outcomes [13].

Second, AI can be incorporated into performance management by analyzing employee work data and performance indicators. This can provide more timely and objective feedback, enabling employees to identify areas for improvement and support continuous performance development [14]. AI-generated insights can also be used to design personalized career development and training programs that better align with individual employee needs and career goals [15].

Third, organizations can use AI-based employee sentiment analysis to identify potential concerns and address them at an early stage. Appropriate interventions may improve employee satisfaction and contribute to higher retention [18]. Similarly, predictive AI models can help identify employees who may be at greater risk of leaving the organization, allowing HR professionals to implement proactive retention strategies and reduce employee turnover [16].

Finally, organizations must give strong consideration to data privacy, fairness, and ethical governance. AI systems used in HRM often process sensitive employee information, making compliance with relevant data protection requirements essential. Organizations should establish clear ethical guidelines for AI adoption to promote transparency, fairness, and accountability while minimizing the risk of algorithmic bias, discrimination, or inappropriate use of employee data [19].

7.4 Future Research Directions

Although this study provides useful evidence regarding the role of AI in HRM, several areas require further investigation. First, future research could conduct cross-industry comparative studies. Since HRM requirements, organizational structures, and technology adoption levels vary across industries, comparing different sectors could provide a more comprehensive understanding of the benefits and challenges associated with AI adoption.

Second, longitudinal research could examine the effects of AI adoption over an extended period. Long-term studies would help determine whether the initial improvements in HRM efficiency, employee satisfaction, and engagement are sustained as organizations and employees become more familiar with AI technologies.

Third, future research could investigate emerging AI technologies and their evolving applications in HRM. Technologies such as natural language processing, deep learning, and other advanced AI systems may create new opportunities for recruitment, employee development, performance management, and workforce analytics.

Exploring these areas would contribute to a deeper understanding of AI's long-term organizational and employee impacts. It would also support the development of more effective strategies for responsible AI adoption, helping organizations achieve greater innovation, efficiency, and sustainable development in HRM.

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