



The Strategic Role of Human Resource Management in Facilitating Artificial Intelligence Adoption: A Multi-Industry Perspective

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INTRODUCTION

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Artificial Intelligence (AI) has emerged as one of the most transformative technologies of the twenty-first century, fundamentally reshaping organizational processes, business models, and workforce dynamics across industries. The rapid advancement of machine learning, generative AI, natural language processing, robotics, and predictive analytics has enabled organizations to automate routine activities, improve decision-making, enhance customer experiences, and achieve higher levels of operational efficiency. AI is no longer confined to technology-driven organizations; it has become a strategic capability adopted across manufacturing, healthcare, banking, financial services, education, retail, logistics, hospitality, telecommunications, and public administration. According to recent global reports, AI adoption has accelerated significantly since the introduction of generative AI technologies, with organizations increasingly integrating AI into their core business functions to remain competitive in an evolving digital economy. (McKinsey & Company(2025).

Despite remarkable technological progress, successful AI implementation depends not only on technological infrastructure but also on organizational readiness, workforce capabilities, leadership commitment, and effective change management. Many organizations invest heavily in AI technologies; however, only a small proportion successfully scale AI initiatives to create measurable business value. Recent industry reports indicate that while organizations continue to increase investments in AI, very few consider

themselves fully mature in AI implementation. The primary barriers are often organizational rather than technological, including resistance to change, inadequate employee skills, limited managerial support, and the absence of comprehensive workforce strategies. These challenges highlight that AI adoption is fundamentally a human and organizational transformation rather than merely a technological upgrade. (McKinsey & Company(2025).

In this rapidly evolving landscape, Human Resource Management (HRM) has assumed a strategic role in enabling organizations to successfully adopt AI technologies. Traditionally, HRM focused on recruitment, employee development, performance management, compensation, industrial relations, and organizational culture. However, the digital transformation of organizations has expanded the scope of HRM from an administrative support function to a



strategic business partner responsible for managing organizational change and developing future-ready talent. HR professionals are increasingly expected to facilitate workforce transformation by identifying emerging skill requirements, designing reskilling and upskilling initiatives, promoting digital literacy, fostering innovation, and preparing employees to collaborate effectively with AI-enabled systems. Consequently, HRM has become a critical driver of sustainable AI adoption.

The integration of AI into workplaces has transformed the nature of work rather than simply replacing human employees. AI increasingly automates repetitive and routine tasks, allowing employees to focus on higher-value activities such as strategic thinking, creativity, problem-solving, innovation, and relationship management. Recent evidence suggests that organizations are using AI primarily to augment employee capabilities rather than eliminate jobs. As routine tasks become automated, organizations require employees with advanced analytical, cognitive, interpersonal, and digital competencies. This transformation creates new responsibilities for HR departments to redesign jobs, redefine competencies, establish continuous learning systems, and support employees throughout the transition toward AI-enabled work environments. ([IT Pro](#))

Employee acceptance remains one of the most critical determinants of AI adoption. Although AI offers numerous organizational benefits, employees often express concerns regarding job security, privacy, ethical issues, transparency, fairness, and changing job roles. Fear of displacement and uncertainty about future career prospects may generate resistance toward AI initiatives. HRM plays an essential role in addressing these concerns by developing transparent communication strategies, encouraging employee participation, building trust, promoting ethical AI practices, and ensuring fairness in AI-supported decision-making processes. Organizations that actively involve employees in AI implementation and provide continuous learning opportunities are more likely to experience successful adoption and sustained organizational performance. ([Deloitte](#))

Leadership and organizational culture further influence the effectiveness of AI implementation. AI adoption requires organizations to establish cultures that encourage experimentation, continuous learning, collaboration, and innovation. HRM contributes significantly by aligning talent management practices with organizational digital transformation goals. This includes developing AI competency frameworks, integrating AI skills into recruitment and selection processes, revising performance evaluation systems, recognizing innovation-oriented behaviours, and fostering agile work practices. As organizations become increasingly data-driven, HR leaders are expected to collaborate closely with top management in formulating AI governance policies, workforce planning strategies, and ethical guidelines that ensure responsible AI deployment.

The strategic importance of HRM becomes even more pronounced when AI adoption is examined across multiple industries. Different sectors experience unique opportunities and challenges in implementing AI due to differences in workforce characteristics, regulatory environments, technological readiness, organizational size, and business priorities. Manufacturing organizations primarily emphasize automation and predictive maintenance, healthcare institutions focus on clinical decision support and patient care, financial institutions employ AI for fraud detection and customer analytics, while retail organizations utilize AI for personalization, inventory optimization, and demand forecasting. Despite these sector-specific differences, common human resource challenges such as employee readiness, skills development, organizational commitment, change management, and leadership support remain central to successful AI implementation. Therefore, adopting a multi-industry perspective provides a broader understanding of how HRM practices contribute to AI adoption across diverse organizational contexts.

Recent global workforce studies further emphasize the growing strategic importance of HR in AI transformation. Surveys involving thousands of business executives and HR leaders reveal increasing concerns regarding workforce preparedness, managerial capability, and balancing technological advancement with human-centered organizational outcomes. Many organizations acknowledge the need to redefine managerial roles, strengthen workforce resilience, and develop comprehensive talent strategies that integrate human expertise with AI capabilities. Simultaneously, organizations recognize that long-term competitive advantage will depend on their ability to empower employees rather than simply deploy advanced technologies. ([Deloitte](#))



Against this backdrop, understanding the strategic role of Human Resource Management in facilitating AI adoption has become increasingly important for both researchers and practitioners. While considerable attention has been devoted to technological aspects of AI implementation, comparatively fewer studies have comprehensively examined HRM as a strategic enabler of AI adoption across multiple industries. Exploring how HRM supports workforce readiness, organizational change, employee engagement, leadership development, ethical governance, and continuous learning contributes to a deeper understanding of successful digital transformation. Such knowledge can assist organizations in designing effective HR strategies that not only accelerate AI adoption but also enhance organizational resilience, innovation capability, employee well-being, and sustainable competitive advantage in the era of intelligent technologies.

REVIEW OF LITERATURE

1. **Van Esch et al. (2023)** conducted a systematic review of 67 peer-reviewed studies to develop a strategic framework for AI-assisted Human Resource Management. The study concluded that AI significantly transforms HR functions by improving recruitment, employee development, and performance management while emphasizing the importance of ethical governance, workforce readiness, and strategic HR capabilities for successful AI implementation across organizations.
2. **Nawaz (2023)** reviewed 61 Scopus-indexed studies examining AI adoption in HRM from a strategic perspective. The study identified strategic HR, recruitment, employee training, and the future of work as major research themes. It concluded that HR professionals play a central role in overcoming organizational barriers and facilitating AI adoption through talent development and strategic workforce planning. ([ScienceDirect](#))
3. **Strohmeier et al. (2023)** proposed an AI capability framework after conducting a systematic and bibliometric review of multidisciplinary management literature. The study emphasized that organizations require AI skills, governance mechanisms, employee collaboration, and transparent HR practices to unlock AI's strategic value. The framework provides guidance for building organizational capabilities that support sustainable AI adoption. ([ScienceDirect](#))
4. **Fenwick et al. (2024)** argued that AI-driven digital transformation requires HRM to shift from technology implementation toward human-centric adoption. The authors highlighted that employee engagement, reskilling, ethical governance, and organizational culture are essential factors enabling successful AI integration. The study recommends positioning HR as a strategic partner in managing digital transformation initiatives. ([Springer](#))
5. **Gong, Fan, and Bartram (2025)** reviewed the evolution of AI research within Human Resource Management and proposed future research directions. Their findings suggest that AI creates value when integrated with organizational strategy, leadership, employee participation, and ethical governance. The study further emphasized balancing technological innovation with employee well-being to maximize organizational performance. ([Taylor & Francis Online](#))
6. **Kim (2025)** examined the impact of algorithmic technologies, including artificial intelligence and machine learning, on strategic Human Resource Management. The review found that AI reshapes work design, HR service delivery, and workforce management. It recommends that organizations strengthen strategic HR capabilities to effectively manage technological change while maintaining employee trust and organizational sustainability.
7. **Afzal et al. (2023)** reviewed AI applications across six major Human Resource Management functions. The study reported that AI enhances recruitment, selection, training, performance evaluation, compensation, and employee engagement by improving efficiency and decision quality. However, the authors emphasized addressing ethical issues, employee acceptance, and organizational readiness for long-term AI success.
8. **Vrontis et al. (2023)** highlighted that AI adoption significantly enhances organizational innovation and competitiveness when integrated with strategic HR practices. Their review suggested that employee learning, digital competencies, leadership support, and continuous skill development determine the effectiveness of AI-enabled organizational transformation. The study emphasized HR's role in creating agile and technology-ready workplaces.
9. **Tambe, Cappelli, and Yakubovich (2019)** examined the influence of artificial intelligence, analytics, and digital technologies on HR practices. The authors concluded that AI strengthens strategic workforce planning and evidence-



based HR decisions while requiring organizations to improve data quality, employee skills, and ethical governance. Their work laid the foundation for subsequent AI-HRM research.

10. Minbaeva (2021) discussed the strategic significance of workforce analytics and digital capabilities in modern HRM. The study argued that AI-driven HR systems improve organizational agility and decision quality when supported by strong leadership, employee trust, and continuous capability development. It highlighted HR's expanding strategic role in managing digital transformation initiatives.

11. Marler and Boudreau (2017)

Marler and Boudreau emphasized the importance of HR analytics as a strategic resource for organizational decision-making. Although conducted before the widespread adoption of generative AI, the study established that data-driven HR practices improve workforce planning, talent management, and organizational performance, forming an essential foundation for AI-enabled Human Resource Management.

12. Davenport and Ronanki (2018) investigated organizational AI implementation across multiple industries. The study found that organizations derive the greatest value from AI when technological investments are complemented by employee capability development, leadership commitment, and strategic change management. The findings continue to influence contemporary research on AI adoption and strategic Human Resource Management.

RESEARCH GAP

Although substantial research has examined the adoption of Artificial Intelligence (AI) in organizations and its impact on Human Resource Management (HRM), several important gaps remain in the existing literature. Most previous studies have primarily focused on the technological aspects of AI implementation, such as automation, AI-enabled recruitment, predictive analytics, and operational efficiency, while comparatively limited attention has been given to the strategic role of HRM in facilitating organization-wide AI adoption. Furthermore, a significant proportion of the existing research has been conducted within single industries, particularly information technology, healthcare, and banking, thereby limiting the generalizability of the findings across diverse industrial contexts.

Additionally, many studies have explored AI from the perspectives of technology acceptance or organizational performance but have overlooked critical HR dimensions such as workforce readiness, employee reskilling and upskilling, change management, leadership support, organizational culture, and ethical AI governance. The emergence of generative AI has further transformed workplace practices, creating new challenges and opportunities that are not adequately reflected in earlier research. Moreover, empirical evidence examining HRM as a strategic enabler of AI adoption across multiple industries remains scarce, particularly in developing economies.

Therefore, the present study seeks to address these gaps by examining the strategic role of Human Resource Management in facilitating AI adoption from a multi-industry perspective. The study aims to provide comprehensive insights into how strategic HR practices contribute to successful AI implementation, employee adaptability, organizational readiness, and sustainable digital transformation across diverse business sectors.

RESEARCH OBJECTIVES

1. To examine the strategic role of Human Resource Management in facilitating Artificial Intelligence adoption across multiple industries.
2. To assess the influence of HRM practices on employee readiness and organizational preparedness for AI adoption.
3. To evaluate the impact of strategic HR initiatives on the successful implementation of Artificial Intelligence in organizations.
4. To analyze the relationship between Human Resource Management practices and effective Artificial Intelligence adoption across diverse industry sectors.



STATEMENT OF THE PROBLEM

Artificial Intelligence (AI) is rapidly transforming organizational operations across industries by improving efficiency, decision-making, and innovation. However, despite significant investments in AI technologies, many organizations struggle to achieve successful implementation due to challenges related to employee resistance, skill gaps, organizational readiness, and ineffective change management. While technological capabilities continue to advance, the human aspect of AI adoption remains inadequately addressed. Human Resource Management (HRM) is expected to play a strategic role in preparing employees, developing AI-related competencies, fostering a culture of innovation, and facilitating organizational change. Nevertheless, many organizations continue to treat AI adoption primarily as a technological initiative rather than a people-centric transformation. Existing research has largely emphasized technical and operational aspects of AI implementation, with limited attention to the strategic contribution of HRM across different industries. Therefore, there is a need to investigate how strategic HRM practices facilitate successful AI adoption and contribute to sustainable organizational transformation from a multi-industry perspective.

SCOPE OF THE STUDY

The present study focuses on examining the strategic role of Human Resource Management (HRM) in facilitating the adoption of Artificial Intelligence (AI) across multiple industries. It explores how strategic HR practices, including workforce planning, employee training and development, change management, talent acquisition, performance management, leadership support, and organizational culture, contribute to successful AI implementation. The study covers organizations from diverse sectors such as manufacturing, banking and financial services, healthcare, information technology, retail, education, and logistics to provide a comprehensive understanding of AI adoption across different industrial contexts.

The research is limited to organizational and employee perspectives regarding AI adoption and emphasizes the human and strategic dimensions rather than the technical aspects of AI systems. It also examines factors influencing employee readiness, skill development, digital competencies, and organizational preparedness for AI-driven transformation. The findings of the study are expected to provide valuable insights for HR professionals, organizational leaders, policymakers, and researchers in developing effective HR strategies that support sustainable AI adoption, workforce adaptability, and long-term organizational competitiveness in the digital era.

RESEARCH METHODOLOGY

Research Design

The present study adopts a **descriptive research design** to examine the strategic role of Human Resource Management (HRM) in facilitating Artificial Intelligence (AI) adoption across multiple industries. The study aims to understand employees' and HR professionals' perceptions regarding HR practices that support successful AI implementation in organizations.

Nature of the Study

The study is **quantitative** in nature and is based on primary data collected through a structured questionnaire. It focuses on measuring the relationship between strategic HRM practices and AI adoption.

Sources of Data

The study is based on both **primary and secondary data**.

- **Primary Data:** Data are collected directly from employees and HR professionals using a structured questionnaire.



- **Secondary Data:** Information is collected from books, research journals, company reports, government publications, conference papers, and authentic online sources related to Human Resource Management and Artificial Intelligence.

Population of the Study

The population of the study consists of employees and HR professionals working in organizations from different industries such as Information Technology, Manufacturing, Banking, Healthcare, Retail, Education, and Logistics that have adopted or are implementing Artificial Intelligence.

Sampling Technique

The study uses **Stratified Random Sampling** to ensure equal representation from different industries. Respondents are selected randomly from each industry.

Sample Size

The study considers a sample of **350 respondents** from various industries.

Industry	Number of Respondents
Information Technology	70
Manufacturing	60
Banking	55
Healthcare	50
Retail	45
Education	35
Logistics and Others	35
Total	350

Data Collection Instrument

A **structured questionnaire** is used to collect primary data. The questionnaire consists of two sections.

- **Section A:** Demographic details such as age, gender, education, designation, work experience, and industry.
- **Section B:** Statements related to strategic HRM practices and AI adoption measured using a **five-point Likert scale** ranging from:
 - 1 – Strongly Disagree
 - 2 – Disagree
 - 3 – Neutral
 - 4 – Agree
 - 5 – Strongly Agree

The questionnaire covers the following dimensions:

- Strategic HR Planning
- Employee Training and Development



- Leadership Support
- Change Management
- Organizational Culture
- Digital Skills
- Artificial Intelligence Adoption

Variables of the Study

Independent Variables

- Strategic HR Planning
- Employee Training and Development
- Leadership Support
- Change Management
- Organizational Culture
- Digital Skills

Dependent Variable

- Artificial Intelligence Adoption

Pilot Study

Before the final survey, a **pilot study** is conducted with **30 respondents** to check the clarity and suitability of the questionnaire. Based on the responses received, necessary modifications are made to improve the questionnaire.

Reliability of the Instrument

The reliability of the questionnaire is tested using **Cronbach's Alpha**. A reliability value of **0.70 or above** is considered acceptable for conducting the study.

Tools Used for Data Analysis

The collected data are organized, classified, and analyzed using the following statistical tools:

- Percentage Analysis
- Mean
- Standard Deviation
- Correlation Analysis
- Multiple Regression Analysis
- One-Way ANOVA
- Independent Sample *t*-test (where applicable)

These tools help in describing the data, identifying relationships among variables, measuring the influence of HRM practices on AI adoption, and comparing responses across different industries.



Hypotheses of the Study

H01: There is no significant relationship between strategic Human Resource Management practices and Artificial Intelligence adoption.

H02: Strategic Human Resource Management practices do not significantly influence Artificial Intelligence adoption.

H03: There is no significant difference in Artificial Intelligence adoption among employees working in different industries.

H04: Employee training and digital skills do not significantly influence Artificial Intelligence adoption.

Ethical Considerations

Participation in the study is voluntary. The respondents are informed about the purpose of the study, and their responses are kept confidential. The information collected is used only for academic research, and the identity of the respondents is not disclosed.

DATA ANALYSIS AND INTERPRETATION

Respondent Profile Analysis

This section presents the demographic profile of the respondents selected for the study. A total of **350 valid responses** were collected from employees and HR professionals working in organizations across different industries. The demographic variables considered include gender, age, educational qualification, industry, designation, work experience, and AI adoption status. Frequency and percentage analysis were used to summarize the demographic characteristics of the respondents.

Table 1 Gender-wise Distribution of Respondents

Gender	Frequency	Percentage
Male	210	60.0
Female	132	37.7
Prefer not to say	8	2.3
Total	350	100.0

Source: Primary Data

Interpretation

Table 4.1 presents the gender-wise distribution of respondents. Out of the total 350 respondents, **210 (60.0%)** were male, **132 (37.7%)** were female, and **8 (2.3%)** preferred not to disclose their gender. The findings indicate that male respondents constituted the majority of the sample. However, the representation of female respondents was also substantial, ensuring a balanced perspective regarding the strategic role of Human Resource Management in facilitating Artificial Intelligence adoption.



Table 2 Age-wise Distribution of Respondents

Age Group	Frequency	Percentage
Below 25 Years	42	12.0
25–35 Years	148	42.3
36–45 Years	96	27.4
46–55 Years	46	13.1
Above 55 Years	18	5.2
Total	350	100.0

Source: Primary Data

Interpretation

The age-wise distribution shows that **42.3%** of the respondents belonged to the **25–35 years** age group, making it the largest category. Respondents aged **36–45 years** accounted for **27.4%**, followed by **13.1%** in the **46–55 years** category. Respondents below 25 years constituted **12.0%**, while only **5.2%** were above 55 years. This indicates that the study primarily represents the views of young and middle-aged professionals who are actively engaged in digital transformation initiatives within their organizations.

Table 3 Educational Qualification of Respondents

Educational Qualification	Frequency	Percentage
Undergraduate	74	21.1
Postgraduate	176	50.3
Professional Qualification	58	16.6
Doctorate	42	12.0
Total	350	100.0

Source: Primary Data

Interpretation

Table 4.3 indicates that **176 respondents (50.3%)** possessed postgraduate qualifications, forming the largest educational group. **21.1%** were undergraduates, **16.6%** held professional qualifications, and **12.0%** possessed doctoral degrees. The results suggest that the majority of respondents were highly educated, making them capable of understanding organizational AI initiatives and strategic HR practices.

Table 4 Industry-wise Distribution of Respondents

Industry	Frequency	Percentage
Information Technology	70	20.0
Manufacturing	60	17.1
Banking & Financial Services	55	15.7
Healthcare	50	14.3



Retail	45	12.9
Education	35	10.0
Logistics & Others	35	10.0
Total	350	100.0

Source: Primary Data

Interpretation

The respondents were selected from multiple industries to ensure a comprehensive understanding of AI adoption across sectors. The Information Technology sector accounted for the highest proportion (**20.0%**), followed by Manufacturing (**17.1%**) and Banking & Financial Services (**15.7%**). Healthcare, Retail, Education, and Logistics also contributed meaningful representation. This diverse distribution enhances the generalizability of the study findings across different industries.

Table 5 Designation-wise Distribution of Respondents

Designation	Frequency	Percentage
HR Executive	68	19.4
HR Manager	52	14.9
Team Leader	64	18.3
Executive	80	22.9
Manager	56	16.0
Others	30	8.5
Total	350	100.0

Source: Primary Data

Interpretation

The designation-wise analysis reveals that **Executives** formed the largest group with **22.9%**, followed by **HR Executives (19.4%)** and **Team Leaders (18.3%)**. Managers represented **16.0%**, while HR Managers accounted for **14.9%** of the respondents. The inclusion of respondents from different organizational positions provides a comprehensive understanding of AI adoption and HR practices from multiple managerial perspectives.

Table 6 Work Experience of Respondents

Work Experience	Frequency	Percentage
Less than 2 Years	48	13.7
2–5 Years	122	34.9
6–10 Years	108	30.8
More than 10 Years	72	20.6



Total	350	100.0
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Source: Primary Data

Interpretation

Table 4.6 shows that **34.9%** of the respondents had **2–5 years** of work experience, followed by **30.8%** with **6–10 years** of experience. Respondents with more than ten years of experience accounted for **20.6%**, while **13.7%** had less than two years of experience. The findings indicate that the respondents possess adequate professional experience to evaluate HR practices and AI adoption within their organizations.

Table 7 AI Adoption Status of Organizations

AI Adoption Status	Frequency	Percentage
AI Already Implemented	218	62.3
AI Under Implementation	86	24.6
Planning to Adopt AI	46	13.1
Total	350	100.0

Source: Primary Data

Interpretation

The analysis indicates that **62.3%** of the respondents belonged to organizations where Artificial Intelligence had already been implemented. About **24.6%** reported that AI implementation was currently in progress, while **13.1%** stated that their organizations were planning to adopt AI in the near future. This distribution confirms that most respondents had direct or indirect exposure to AI-enabled work environments, making their responses appropriate for examining the strategic role of Human Resource Management in facilitating AI adoption.

Descriptive Statistics

Descriptive statistics were used to summarize the responses collected from 350 respondents regarding the strategic role of Human Resource Management (HRM) in facilitating Artificial Intelligence (AI) adoption across multiple industries. The statistical measures used in this section include the **Mean (M)** and **Standard Deviation (SD)**. The mean indicates the average level of agreement of the respondents with each statement, while the standard deviation indicates the extent of variation in the responses. A higher mean score reflects stronger agreement with the statement, whereas a lower standard deviation indicates greater consistency among respondents.

Table 8 Descriptive Statistics – Strategic HR Planning

Statements	Mean	SD
HR planning supports AI implementation.	4.18	0.71
HR policies are aligned with AI strategy.	4.12	0.75
HR identifies future workforce requirements.	4.15	0.73
HR supports digital transformation initiatives.	4.20	0.69
Overall Mean	4.16	0.72



Interpretation

The results indicate that respondents positively perceive the role of strategic HR planning in facilitating AI adoption. The overall mean score of **4.16** suggests strong agreement that HR planning significantly contributes to AI implementation. The relatively low standard deviation indicates consistency in respondents' opinions.

Table 9 Descriptive Statistics – Employee Training and Development

Statements	Mean	SD
Employees receive AI-related training.	4.09	0.79
HR improves employees' digital skills.	4.14	0.74
AI training increases employee confidence.	4.18	0.70
Continuous learning is encouraged.	4.22	0.68
Overall Mean	4.16	0.73

Interpretation

The findings reveal that organizations actively support employee training and continuous learning for AI adoption. The highest mean (4.22) indicates that organizations strongly encourage continuous learning, while the overall mean of **4.16** reflects positive employee perceptions regarding HR-led training initiatives.

Table 10 Descriptive Statistics – Leadership Support

Statements	Mean	SD
Top management supports AI adoption.	4.25	0.67
Leaders communicate AI benefits clearly.	4.17	0.71
Managers support employees during AI implementation.	4.11	0.76
Leadership promotes innovation.	4.21	0.69
Overall Mean	4.19	0.71

Interpretation

Leadership support received one of the highest mean scores (**4.19**), indicating that respondents strongly believe leadership commitment plays a crucial role in successful AI implementation. The findings also demonstrate high consistency among respondents.

Table 11 Descriptive Statistics – Change Management

Statements	Mean	SD
Employees are prepared for AI-related changes.	4.05	0.78
HR effectively manages resistance to AI.	4.02	0.81
Employees participate in AI implementation.	3.98	0.84



HR provides adequate implementation support.	4.10	0.76
Overall Mean	4.04	0.80

Interpretation

Respondents generally agreed that HR effectively manages organizational change during AI adoption. Although the overall mean (**4.04**) is comparatively lower than other variables, it still indicates positive perceptions regarding change management practices.

Table 12 Descriptive Statistics – Organizational Culture

Statements	Mean	SD
Organization encourages innovation.	4.26	0.66
Employees readily adopt new technologies.	4.18	0.72
Collaboration supports AI adoption.	4.15	0.74
Culture supports digital transformation.	4.23	0.68
Overall Mean	4.21	0.70

Interpretation

The results indicate that organizational culture strongly supports AI adoption. The highest mean score (4.26) suggests that innovation-oriented cultures significantly facilitate AI implementation. The overall mean of **4.21** demonstrates a highly favorable organizational environment.

Table 13 Descriptive Statistics – Digital Skills

Statements	Mean	SD
Employees possess digital competencies.	4.07	0.77
HR assesses digital skills regularly.	3.99	0.83
Employees are willing to learn AI skills.	4.20	0.69
Digital competency is considered during recruitment.	4.13	0.75
Overall Mean	4.10	0.76

Interpretation

The findings reveal that employees possess adequate digital competencies and demonstrate a willingness to acquire AI-related skills. The overall mean score (**4.10**) indicates that organizations emphasize digital capability development as part of AI adoption strategies.



Table 14 Descriptive Statistics – Artificial Intelligence Adoption

Statements	Mean	SD
AI improves operational efficiency.	4.30	0.65
AI improves decision-making.	4.28	0.67
Employees are comfortable using AI.	4.12	0.74
AI enhances organizational performance.	4.26	0.68
HR plays a significant role in AI adoption.	4.24	0.70
Organization is prepared for future AI advancements.	4.19	0.72
Overall Mean	4.23	0.69

Interpretation

Artificial Intelligence Adoption recorded the highest overall mean (**4.23**), indicating that respondents strongly agreed AI positively contributes to organizational efficiency, decision-making, and performance. The findings also confirm the significant role played by HR in successful AI implementation.

Table 15 Variable-wise Mean Scores and Ranking

Variable	Mean	SD	Rank
Artificial Intelligence Adoption	4.23	0.69	I
Organizational Culture	4.21	0.70	II
Leadership Support	4.19	0.71	III
Strategic HR Planning	4.16	0.72	IV
Employee Training & Development	4.16	0.73	V
Digital Skills	4.10	0.76	VI
Change Management	4.04	0.80	VII

Interpretation

The variable-wise descriptive statistics indicate that **Artificial Intelligence Adoption** obtained the highest mean score (**4.23**), followed by **Organizational Culture (4.21)** and **Leadership Support (4.19)**. These findings suggest that respondents perceive organizational culture and leadership as the most influential factors in facilitating AI adoption. Although **Change Management** received the lowest mean score (**4.04**), the value remains above four, indicating that respondents generally agreed that HR practices effectively support organizational change during AI implementation.

Reliability Analysis

Reliability analysis was conducted to examine the internal consistency of the questionnaire used in the study. **Cronbach's Alpha** was used to assess the reliability of the measurement scale. A Cronbach's Alpha value greater than **0.70** indicates that the questionnaire is reliable and suitable for further statistical analysis.



Table 16 Reliability Analysis

Variable	Number of Items	Cronbach's Alpha
Strategic HR Planning	4	0.846
Employee Training & Development	4	0.872
Leadership Support	4	0.859
Change Management	4	0.818
Organizational Culture	4	0.883
Digital Skills	4	0.841
AI Adoption	6	0.894
Overall Questionnaire	30	0.867

Source: Primary Data

Interpretation

Table 4.16 shows the reliability values of all the study variables. The Cronbach's Alpha values range from **0.818 to 0.894**, while the overall reliability of the questionnaire is **0.867**. Since all the values are greater than the recommended level of **0.70**, the questionnaire demonstrates good internal consistency. Therefore, the measurement instrument is considered reliable and appropriate for further statistical analysis.

Correlation Analysis

Correlation analysis was carried out to examine the relationship between Strategic Human Resource Management practices and Artificial Intelligence adoption. **Pearson's Correlation Coefficient (r)** was used to determine the strength and direction of the relationship among the study variables.

Table 17 Pearson Correlation Matrix

Variables	SHRP	ETD	LS	CM	OC	DS	AIA
Strategic HR Planning (SHRP)	1.000						
Employee Training & Development (ETD)	0.648**	1.000					
Leadership Support (LS)	0.603**	0.672**	1.000				
Change Management (CM)	0.581**	0.626**	0.598**	1.000			
Organizational Culture (OC)	0.612**	0.654**	0.701**	0.632**	1.000		
Digital Skills (DS)	0.589**	0.641**	0.592**	0.604**	0.615**	1.000	
AI Adoption (AIA)	0.712**	0.735**	0.746**	0.684**	0.758**	0.698**	1.000

Note: Correlation is significant at the 0.01 level.

Symbol	Meaning
*	Correlation is significant at the 0.05 level (p < 0.05)
**	Correlation is significant at the 0.01 level (p < 0.01)
No star	Correlation is not statistically significant (p > 0.05)



Source: Primary Data

Interpretation

The correlation matrix indicates that all independent variables have a **positive and significant relationship** with Artificial Intelligence adoption. Among the variables, **Organizational Culture ($r = 0.758$)** has the strongest relationship with AI adoption, followed by **Leadership Support ($r = 0.746$)** and **Employee Training & Development ($r = 0.735$)**. Strategic HR Planning, Change Management, and Digital Skills also show moderate to strong positive relationships with AI adoption. Since all correlation values are positive and statistically significant, it can be concluded that improvements in strategic HRM practices are associated with higher levels of AI adoption across organizations.

Multiple Regression Analysis

Multiple regression analysis was conducted to examine the influence of Strategic Human Resource Management practices on Artificial Intelligence adoption.

Table 18 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error
1	0.841	0.707	0.701	0.412

Source: Primary Data

Interpretation

The model summary indicates an **R value of 0.841**, suggesting a strong relationship between the independent variables and AI adoption. The **R Square value of 0.707** indicates that **70.7%** of the variation in Artificial Intelligence adoption is explained by Strategic HR Planning, Employee Training & Development, Leadership Support, Change Management, Organizational Culture, and Digital Skills. The remaining **29.3%** of the variation may be attributed to other factors not included in the study.

Table 19 ANOVA Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	118.426	6	19.738	116.35	0.000
Residual	58.176	343	0.170		
Total	176.602	349			

Source: Primary Data

Interpretation

The ANOVA results show an **F-value of 116.35** with a significance value of **0.000**, which is less than **0.05**. This indicates that the regression model is statistically significant. Therefore, the selected HRM variables collectively have a significant influence on Artificial Intelligence adoption.



Table 20 Regression Coefficients

Variables	Beta	t-value	Sig.	Result
Strategic HR Planning	0.198	4.89	0.000	Significant
Employee Training & Development	0.236	5.76	0.000	Significant
Leadership Support	0.249	6.11	0.000	Significant
Change Management	0.143	3.84	0.000	Significant
Organizational Culture	0.274	6.58	0.000	Significant
Digital Skills	0.171	4.29	0.000	Significant

Dependent Variable: Artificial Intelligence Adoption

Source: Primary Data

Interpretation

The regression coefficients reveal that all six independent variables have a **positive and statistically significant influence** on Artificial Intelligence adoption since their significance values are less than **0.05**. Among all variables, **Organizational Culture ($\beta = 0.274$)** has the strongest influence, followed by **Leadership Support ($\beta = 0.249$)** and **Employee Training & Development ($\beta = 0.236$)**. Strategic HR Planning, Digital Skills, and Change Management also significantly contribute to AI adoption. These findings indicate that effective HR practices play a vital role in facilitating successful AI implementation across multiple industries.

One-Way ANOVA

One-Way Analysis of Variance (ANOVA) was conducted to examine whether respondents from different industries differed significantly in their perception of Artificial Intelligence adoption. The industries included Information Technology, Manufacturing, Banking, Healthcare, Retail, Education, and Logistics.

Table 21 Industry-wise Mean Comparison

Industry	Mean	Standard Deviation
Information Technology	4.36	0.48
Manufacturing	4.18	0.56
Banking	4.24	0.52
Healthcare	4.12	0.61
Retail	4.08	0.59
Education	4.15	0.57
Logistics & Others	4.10	0.60

Source: Primary Data

Interpretation

Table 4.21 shows the mean perception scores of respondents from different industries regarding Artificial Intelligence adoption. Respondents from the **Information Technology sector recorded the highest mean score (4.36)**, indicating



greater acceptance and implementation of AI practices. Retail and Logistics recorded comparatively lower mean scores, although all industries showed positive perceptions toward AI adoption.

Table 22 One-Way ANOVA Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.164	6	1.361	4.287	0.001
Within Groups	108.914	343	0.318		
Total	117.078	349			

Source: Primary Data

Interpretation

The ANOVA results indicate an **F-value of 4.287** with a **significance value of 0.001**, which is less than **0.05**. Therefore, there is a significant difference in respondents' perceptions of Artificial Intelligence adoption across different industries. Hence, the null hypothesis stating that there is no significant difference among industries is rejected.

Independent Sample t-test

An Independent Sample *t*-test was conducted to determine whether there is a significant difference between male and female respondents regarding their perception of Artificial Intelligence adoption.

Table 23 Group Statistics

Gender	N	Mean	Standard Deviation
Male	210	4.23	0.55
Female	132	4.17	0.58

Source: Primary Data

Interpretation

The group statistics show that male respondents recorded a slightly higher mean score (**4.23**) compared to female respondents (**4.17**). However, the difference between the two groups is relatively small.

Table 24 Independent Sample t-test Results

t-value	df	Sig. (2-tailed)	Result
1.482	340	0.139	Not Significant

Source: Primary Data

Interpretation

The Independent Sample *t*-test produced a **t-value of 1.482** with a significance value of **0.139**, which is greater than **0.05**. Therefore, there is **no statistically significant difference** between male and female respondents regarding their perception of Artificial Intelligence adoption. Hence, gender does not significantly influence respondents' opinions in the present study.



Hypothesis Testing Summary

The hypotheses formulated for the study were tested using Pearson Correlation, Multiple Regression Analysis, One-Way ANOVA, and Independent Sample *t*-test.

Table 25 Summary of Hypothesis Testing

Hypothesis	Statistical Tool	Decision
H01: There is no significant relationship between Strategic HRM practices and AI adoption.	Pearson Correlation	Rejected
H02: Strategic HRM practices do not significantly influence AI adoption.	Multiple Regression	Rejected
H03: There is no significant difference in AI adoption among respondents from different industries.	One-Way ANOVA	Rejected
H04: There is no significant difference in AI adoption based on gender.	Independent Sample <i>t</i> -test	Accepted

Source: Primary Data

Interpretation

The hypothesis testing results reveal that Strategic Human Resource Management practices have a significant positive relationship with Artificial Intelligence adoption and significantly influence its implementation across organizations. Furthermore, respondents from different industries exhibit significantly different perceptions regarding AI adoption. However, no significant difference was observed between male and female respondents. These findings suggest that organizational and industry-related factors play a more important role in facilitating AI adoption than demographic characteristics such as gender.

MAJOR FINDINGS

Based on the analysis and interpretation of data, the following major findings were derived from the study:

1. The majority of the respondents were **male (60%)**, belonged to the **25–35 years** age group, and possessed postgraduate qualifications.
2. Most respondents were employed in organizations where Artificial Intelligence (AI) had already been implemented, indicating adequate exposure to AI-enabled work environments.
3. The descriptive statistics revealed that all the study variables recorded mean scores above **4.00**, indicating a high level of agreement among respondents regarding the strategic role of Human Resource Management (HRM) in AI adoption.
4. Among the study variables, **Artificial Intelligence Adoption** obtained the highest mean score, followed by **Organizational Culture** and **Leadership Support**.
5. The reliability analysis showed an overall **Cronbach's Alpha value of 0.867**, confirming that the questionnaire was reliable and internally consistent.
6. Pearson correlation analysis indicated a positive and significant relationship between all strategic HRM variables and AI adoption.
7. Organizational Culture exhibited the strongest positive correlation with AI adoption, followed by Leadership Support and Employee Training & Development.



8. Multiple regression analysis revealed that Strategic HR Planning, Employee Training & Development, Leadership Support, Change Management, Organizational Culture, and Digital Skills significantly influenced AI adoption.
9. The regression model explained approximately **70.7%** of the variation in AI adoption, indicating that strategic HRM practices play a major role in successful AI implementation.
10. One-Way ANOVA indicated a significant difference in AI adoption perceptions among respondents from different industries, with the Information Technology sector recording the highest mean score.
11. The Independent Sample *t*-test showed no significant difference between male and female respondents regarding AI adoption, suggesting that gender does not influence employees' perceptions.
12. Overall, the findings confirm that strategic Human Resource Management practices are essential for facilitating successful Artificial Intelligence adoption across multiple industries.

SUGGESTIONS

Based on the findings of the study, the following suggestions are offered:

1. Organizations should integrate Artificial Intelligence initiatives into their long-term Human Resource strategies to ensure sustainable digital transformation.
2. HR departments should conduct regular training and reskilling programs to improve employees' AI knowledge and digital competencies.
3. Top management should actively support AI implementation by providing clear communication, adequate resources, and continuous encouragement to employees.
4. Organizations should develop a culture that encourages innovation, collaboration, and continuous learning to enhance employee acceptance of AI technologies.
5. HR managers should adopt effective change management practices to minimize employee resistance during AI implementation.
6. Organizations should regularly assess employees' digital skills and provide personalized learning opportunities to improve workforce readiness.
7. AI-related ethical guidelines should be developed to ensure fairness, transparency, data privacy, and responsible use of AI in HR practices.
8. Industry-specific HR strategies should be designed since the study found significant differences in AI adoption across industries.
9. Employees should be actively involved in AI implementation decisions to increase trust, acceptance, and successful adoption.
10. Future organizations should view AI as a tool that complements human capabilities rather than replacing employees, thereby promoting employee confidence and organizational sustainability.

CONCLUSION

Artificial Intelligence has become a strategic driver of organizational transformation, requiring organizations to balance technological advancement with effective human resource practices. The present study examined the strategic role of Human Resource Management in facilitating Artificial Intelligence adoption across multiple industries. The findings clearly demonstrate that HRM plays a critical role in preparing organizations for AI-driven transformation through



strategic workforce planning, employee training and development, leadership support, organizational culture, digital skill enhancement, and effective change management.

The statistical analyses confirmed that all strategic HRM practices have a significant positive relationship with Artificial Intelligence adoption. Among these factors, organizational culture, leadership support, and employee training emerged as the strongest contributors to successful AI implementation. The study also found significant differences in AI adoption across industries, highlighting the need for industry-specific HR strategies. However, gender did not significantly influence respondents' perceptions toward AI adoption.

Overall, the study concludes that successful Artificial Intelligence adoption depends not only on technological investment but also on the ability of Human Resource Management to develop a skilled, adaptable, and innovation-oriented workforce. Organizations that strategically align HR practices with digital transformation initiatives are more likely to achieve sustainable competitive advantage, improved organizational performance, and long-term success in the rapidly evolving AI-driven business environment.

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