The Impact of AI-Enabled HR Practices on Talent Management Outcomes: Evidence from IT Employees in the APCRDA Region

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ABSTRACT

Purpose:

This research investigates the effect of artificial intelligence (AI) human resource (HR) practices on talent management performance in IT firms in the APCRDA region of India. Specifically, it investigates the attitudes of workers towards the use of AI in recruitment and selection, performance management, and learning and development programs.

Methodology:

A quantitative strategy was employed with information collected from 280 staff members of different IT firms employing a standardized survey. Descriptive statistics, regression analysis, and ANOVA were applied in the research to examine the effect of AI implementation in HR functions and key talent management results. The conceptual model is founded on the Technology Acceptance Model (TAM), the Resource-Based View (RBV), and the Unified Theory of Acceptance and Use of Technology (UTAUT).

Findings:

Findings reveal a significant, positive correlation of AI impact and talent management performance, e.g., recruitment effectiveness, employee performance, and retention (R^2 = 0.47, $p < 0.01$). AI hiring predicted retention most strongly, followed by learning and development and performance management. ANOVA results show that perceptions of AI effectiveness vary significantly by profession, with higher acceptance among HR professionals. There were, however, mixed views towards AI in performance measurement, where there was concern regarding data privacy and accuracy.

Implications:

The research indicates that AI use in HR is capable of improving organizational effectiveness and employee satisfaction, provided implementation strikes a balance between trust, transparency, and fairness. AI strategies must be aligned by the HR leaders with workforce requirements, and there should be inclusivity for boosting acceptance.

Originality/Value:

With a particular focus on the APCRDA region, this research fills a critical void in AI–HRM research in developing economies. The research provides theoretical as well as practical insights into the deployment of AI in talent management systems as an employee perception effectiveness function to ensure successful deployment.

Keywords: Artificial Intelligence, HRM Practices, Talent Management, Recruitment, IT Sector, APCRDA.

Introduction:

The accelerated development of Artificial Intelligence (AI) is revolutionizing all aspects of business operations, and Human Resource Management (HRM) is not an exception. In today's hyper-competitive, tech-driven business environment, especially in the IT industry, organizations are compelled more than ever before to adopt smart systems in strategic HR

functions in an attempt to manage talent more efficiently and effectively **(Kaplan, 2019)**. AI is not a technology; it is an organizational approach in talent attraction, engagement, development, and retention.

Talent management, which has long been characterized by manual-intensive practices, is being transformed at its very base by AI-powered technologies such as machine learning algorithms, natural language processing (NLP), robotics process automation (RPA), and predictive analytics. These technologies enable HR professionals to streamline time-consuming administrative tasks, enhance data-driven decision-making, enhance the employee experience, and identify emerging talent risks and opportunities in real-time **(Bersin, 2019)**.

For instance, AI technologies can assess candidate fit through resume parsing and psychometric tests, monitor employee performance through sentiment analysis, and provide individualized learning paths through adaptive learning systems **(Huang, 2021)**.

IT, with its innovation culture and high turnover of employees, presents unique opportunities and challenges to the use of AI in HR. With increasing pressures for specialist expertise and agile workforce planning, IT organizations are looking to AI to build responsive HR systems that can respond rapidly to changing business demands **(Meijerink, 2020)**. According to a report by **(Deloitte, 2023)**, over 60% of IT firms globally have implemented some form of AI in HR processes, recruitment, learning and development, and performance management the most common impacted areas.

Moreover, strategic deployment of AI in HR is not merely about operational efficiency. It is about alignment of AI capability with future organizational goals, rendering talent strategies proactive, scalable, and responsive. The Resource-Based View (RBV) theory is in alignment with this perspective in the sense that it emphasizes the point that competitive advantage can be maintained through heterogeneous organizational resources, including technologically advanced human resources (**Barney, 1991**). In the IT sector, AI-based HRM can be a knowledge competitive advantage that helps to distinguish companies in the knowledge-based economy.

Nonetheless, even with all its benefits, AI use in HR is also faced with challenges to ethics, data privacy, algorithmic bias, and employee confidence. These challenges underscore the need for prudent adoption within ethical guidelines and transparent governance (**Vrontis, 2021**). Thus, a clear understanding of opportunities and challenges in AI adoption in HRM is essential for IT organizations to future-proof their talent strategy. The current study aims to examine the strategic adoption of AI into HR practices in the IT sector, assess its impact on talent management outcomes, and identify possible obstacles in its adoption. Based on the insights of IT professionals and HR managers, the current study adds to the digital HR transformation literature and provides practical insights to practitioners.

Need for the Study:

The rapid progress in Artificial Intelligence (AI) has transformed organizational procedures in numerous sectors, and Human Resource Management (HRM) has been recognized as an important area of application. AI-based HR practices such as automated hiring, predictive performance reviews, personalized learning experiences, and analytics of employee engagement are transforming organizational employee management **(Upadhyay, 2019)** **(Margherita, 2022).** While international literature boasts the ability of AI to enhance the effectiveness, reduce discrimination, and improve decision-making of HR, most of the available studies have been confined to developed economies and left out the singular challenges and opportunities that face emerging economies such as India **(Choudhury, 2021).** In the Indian context, particularly in IT firms, AI adoption is accelerating but remains uneven across regions and organizational scales. APCRDA is a fast-evolving IT hub region, but there is limited empirical research on how AI-powered HR practices impact talent management in this regional context. In addition, AI implementation success relies not only

on technological competence but on employees' acceptance, trust, and favourable attitudes toward AI-powered HR processes **(Jaiswal, 2023)**. Employees' perceptions can act as either facilitators or barriers in realizing the intended benefits of AI integration, making it crucial to examine their role in mediating organizational outcomes **(Kumar, 2021).** Therefore, there is a pressing need to study how AI-enabled HR practices affect talent management outcomes in IT firms of the APCRDA region, with specific attention to employees' attitudes and demographic variations. Such an inquiry will contribute to both theory and practice by bridging the knowledge gap, guiding IT organizations in adopting employee-centric AI strategies, and enabling policymakers to frame region-specific HR technology adoption policies.

Research Gap:

Despite increasing attention by artificial intelligence towards Human Resource Management (HRM), the majority of literature that exists has been centered on national or global levels, largely neglecting those specific regional models such as the Andhra Pradesh Capital Region Development Authority (APCRDA). The majority of the research that has been conducted thus far has primarily been centered on large multinationals, with less than sufficient regard to smaller information technology companies or regional differences in terms of placement and influence of AI-strengthened HR practices **(Singh, 2022) (Verma, 2023).** Apart from that, the majority of literature focuses more on the technology potential of AI for HR activities like recruitment, performance tracking, and training without adequately considering the interaction between the attitude of employees and the level of AI application **(Kumar, 2021) (Rathi, 2020).**

Moreover, though talent management has extensively been studied, there is little knowledge on how the adoption of AI affects the subtle facets of talent management, especially in an Indian perspective. Most studies do not account for how the employees' perceptions and attitudes towards adopting AI affect its effectiveness in HR activities. The employees' acceptance, trust, and perceived usefulness of AI in HR practices is an under-researched area, particularly how these variables are associated with talent management outcomes such as retention, productivity, and engagement **(Chandra, 2022).** Against this background, the research gap lies in empirically examining the impact of AI-facilitated HR practices on talent management, with particular reference to employees' attitudes towards the level of usage of AI in HR activities among IT companies within the APCRDA region. This research attempts to fill this gap by analysing the geographical differentials and psychological factors influencing or inhibiting the effective implementation of AI in talent management processes. the research questions are as follows:

1. How are workers predisposed to the application of AI in HR operations?
2. Do employees' attitudes regarding AI adoption in HR functions depend on demographics?
3. How does the level of AI adoption in HR processes impact talent management results?

Contribution of the Study:

This study is a useful contribution to know-how in the field of artificial intelligence (AI) usage in human resource management (HRM), specifically in the information technology field of the APCRDA region. The study highlights the different levels of AI usage in various HR activities, such as recruitment, performance measurement, and talent development, which indicate where AI delivers the most and where more integration is desired. The study also explores the ways demographic factors like age, gender, education, occupation, and experience influence employees' attitudes toward AI, providing businesses with a better understanding of how to make AI strategies benefit different workforce segments. Another useful contribution is exploring how AI adoption affects talent management performance measurements, such as employee engagement, retention, and performance, and demonstrating AI's potential to drive organizational performance. The report emphasizes the necessity of

tailored HR strategies to achieve balanced AI integration in line with demographic differences in AI adoption. Additionally, the study provides guidelines on effective AI adoption in HR processes, which will enable businesses to increase productivity, decision-making, and overall employee satisfaction. The study also fills a knowledge gap in regional studies by focusing on the APCRDA region, providing useful insights on local AI adoption. Finally, by contributing to the emerging literatures on the application of AI in HRM, particularly talent management, this study serves as a roadmap for academic researchers and HR practitioners to implement AI to improve HR processes and organizational performance.

Literature Review:

AI Usage Across Different HR Functions:

Use of Artificial Intelligence (AI) in Human Resource Management (HRM) has been one of the top trends over the past few years, especially in the information technology industry. AI's impact on HR services varies in different applications, including recruitment, monitoring employees' performance, talent building, predictive analysis, and employee engagement **(Choi, 2022) (Marler, 2017)**. Adoption and implementation of AI, however, vary in different HR functions, some of which have higher dependency on data and vulnerability to automation than others **(Gartner, 2021)**. Studies show that AI's impact on HR functions such as recruitment and talent management is greater than on functions such as employee engagement **(Avasarala, 2021)**. In addition, AI applications such as recruitment chatbots or machine learning-based performance measurement have varying levels of effectiveness depending on the function to which they are being applied **(O'Leary, 2020)**. These varying levels of AI adoption and effectiveness raise a question of whether employees' perception and response to AI vary depending on HR functions. The following hypothesis explores whether employees' attitudes towards AI vary depending on its use in different HR functions. It is predicted that employees would be more tolerant of AI in functions such as recruitment or performance measurement, where the advantage of AI is most visible, than in functions such as employee engagement or training, where human interaction is crucial.

H_{01}: There is significant diversity in employees' attitudes towards the application of AI in different HR functions.

Employees' Attitude towards AI Implementation in HR Activities: Employees' attitude towards AI implementation in HR activities is likely to be affected by a variety of demographic variables such as age, gender, education, occupation, and experience. Younger employees have been found to have a favourable attitude towards AI and IT tools as opposed to older employees found to be more susceptible with conventional HR **practices (Prasad, 2020)**. Experience and education also play a role in attitudes, and technical professionals have been found to be more open to AI **(Avasarala, 2021)**. Gender attitudes towards AI are less extensively researched but may be significant, especially in light of AI becoming increasingly embedded in decision-making. Studies have found that men may be more embracing of AI in technical activities, while women may favour human-centred approaches, especially in people-oriented activities such as employee engagement and wellbeing **(Smith, 2019)**. The following hypothesis aims to understand how demographic variables shape the way employees perceive AI's role in HR functions. It posits that factors like age, education, and profession will lead to different perceptions and attitudes toward AI adoption and usage within HR.

H_{02}: Demographic factors (Gender, Age, Qualification, Profession, and Experience) significantly influence employees' perceptions of AI usage in HR functions.

Scope of AI Integration in Human Resources Functions and its Effect on Talent Management Results

AI adoption in HR functions is increasingly seen as a driver of efficiency and effectiveness in talent management **(Sharma, 2022)**. HR operations, including as recruiting, performance

evaluation, and talent development, are becoming increasingly AI-driven, and this transition has been related to enhanced talent management outcomes, such as higher employee engagement, faster hiring procedures, and more accurate performance assessments **(Harrison, 2021)**. However, the degree to which AI is adopted across different HR functions is expected to have varying impacts on talent management outcomes. While AI's role in recruitment and onboarding processes has been well-documented, its effectiveness in broader talent management practices, such as career development, skill enhancement, and succession planning, remains underexplored **(Choi, 2022).** Research indicates that AI-enabled tools can significantly impact the personalization of talent development programs, improve the accuracy of performance evaluations, and reduce bias in decision-making processes **(Colvin, 2020).** The below hypothesis suggests that AI adoption will enhance talent management outcomes, particularly in areas such as recruitment, performance management, and talent development, thereby improving overall organizational performance in IT firms.

H03: The extent of AI implementation for each HR activity is highly positively associated with talent management performance in IT firms.

The literature indicates that AI adoption in HR functions is not uniform with various implications for employees and HR professionals. Hypotheses for this study attempt to examine the sophistication of AI adoption in human resources in light of employee sentiments and measurable outcomes in talent management. Examining how demographic variables affect perceptions on AI and the implication of AI adoption on talent management practice can enable firms to enhance their HR strategy and performance.

Conceptual Model:

The theoretical basis is grounded in current theory, i.e., the Technology Acceptance Model (TAM) **(Davis, 1989)**, the Resource-Based View (RBV) **(Barney, 1991**), and the Unified Theory of Acceptance and Use of Technology (UTAUT) **(Venkatesh, 2003).**
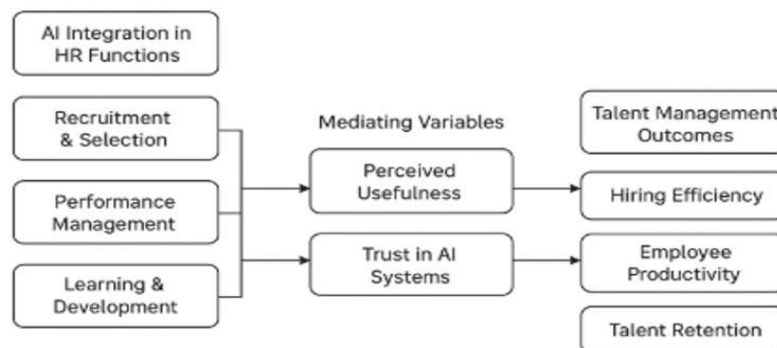
Conceptual Model: The Role of AI-Assisted HR Practices in Talent Management

It implies that the use of Artificial Intelligence (AI) for HR functions like recruitment and selection, performance appraisal, learning and development, and employee engagement has a strong impact on talent management practices. The model shows how the utilization of AI in HR practices leads to enhanced outcomes of talent management as mediated by employees' perceived utility and trust in AI technologies. The model also suggests perceived utility and trust in AI systems as mediating variables on employee acceptance and reliance on AI-based HR solutions. The adoption of AI is likely to improve talent management outcomes like the effectiveness of recruitment, employee productivity, and talent retention in the IT sector. In short, the theory indicates that AI deployment in HR, as mediated by employees' perceptions and trust, leads to enhanced organizational talent management outcomes in the IT Sector.

Figure:01
Variable Measurement Framework

Variables	Measurement Dimensions	Source/Scale Adapted From	Scale Type
Independent Variable (AI Integration in HR Practices)	Recruitment & Selection	**(Upadhyay, 2019)**	5-Point Likert (1–5)
	Performance Management	**(Huang, 2021)**	
	Employee Engagement	**(Meijerink, 2020)**	
Mediating Variables	Perceived Usefulness	**(Davis, 1989)**	5-Point Likert (1–5)
	Trust in AI Systems	**(Venkatesh, 2003)-UTAUT; (Davenport et al., 2020)**	
Dependent Variable (Talent Management Outcomes)	Hiring Efficiency	**(Upadhyay, 2019)**	5-Point Likert (1–5)
	Employee Productivity	**(Huang, 2021)**	
	Talent Retention	**(Meijerink, 2020)**	

Source: Referred from various Research Papers.

Research Methodology:

The major goal of the study is to investigate the influence of AI-enabled human resource practices on talent management in IT enterprises in the APCRDA region. The study focuses on employees' perceptions toward the amount of AI use in HR tasks such as recruitment, performance management, and training. This study used a quantitative research methodology, combining descriptive and exploratory methodologies, to evaluate the influence of Artificial Intelligence (AI) in HR practices in the IT industry. The descriptive design assesses AI adoption and impact, whilst the exploratory component reveals information about strategy integration, employee views, and implementation impediments. The **population** of the study comprised as HR professionals, Technical staff, and mid-level managers. For analysis purposes, these categories were operationalized as: **Managers (mid-level leaders), IT Employees (technical staff), HR Professionals (specialized HR roles), and Others (support and administrative staff)** in Indian IT companies, and a **sample of 280 respondents** was selected through stratified random sampling, ensuring representation from both multinational and domestic firms in APCRDA Region.

A standardized questionnaire (5-point Likert scale) was circulated online via email and LinkedIn, with questions about demographics, AI technologies in HR, perceived efficacy, obstacles, and strategic alignment with HR goals. The instrument was validated by expert evaluation and a pilot test with 25 professionals. Secondary data was gathered from journals and databases. The analysis was carried out using SPSS (v26) and Microsoft Excel, with descriptive statistics and inferential techniques such as chi-square tests, t-tests/ANOVA, and regression analysis. Ethical considerations were met by voluntary involvement, informed consent, anonymity, and confidentiality. The scope is limited to AI applications in human resource activities inside India's IT sector, excluding other areas and businesses.

Results and Discussions:

This section presents the statistical analysis of the data collected from 280 respondents in the Indian IT sector. The results address the research objectives using descriptive and inferential statistics.

Table-01
Demographic Profile of the Sample

Variable	Classification	Frequency	Percent
Gender	Male	172	61.40
	Female	108	38.60
Age (Years)	Between 18 - 25 Years	76	27.14
	26 – 30 Years	96	34.48
	31 – 35 Years	60	21.44
	36 – 40 Years	36	12.86
	Above 40 Years	12	04.28
Qualification	Graduation	70	20.00
	Diploma	50	17.85
	Postgraduate	100	35.72
	Others	60	21.42
Designation	Managers	45	16.07
	IT Employees	65	23.21
	H R Professionals	110	39.28
	Others	60	21.43
Experience	Below 05 Years	106	37.85
	06 - 10 Years	74	26.43
	11 – 15 Years	58	20.72
	Above 15 Years	42	15.00

Source: *Compiled data.*

The Table – 1 demographic profile reveals that the majority of respondents are male (61.40 percent) and predominantly young, with 34.48 percent aged between 26–30 years and 27.14 percent between 18–25 years. Most respondents are well-qualified, with 35.72 percent holding postgraduate degrees, followed by graduates (20 percent) and diploma holders (17.85 percent). In terms of designation, HR professionals form the largest group (39.28%), followed by IT employees (23.21 percent) and managers (16.07 percent). Work experience is largely skewed towards early career stages, with 37.85 percent having below five years of experience and 26.43 percent between six to ten years.These findings are consistent with prior studies which suggest that the IT and HR sectors are dominated by younger, highly educated professionals who are more adaptive to digital innovations **(Kumar V. &., 2021) (Singh, 2022).** The demographic profile indicates that the sample is dominated by **male, young professionals (26–30 years), mostly postgraduates**, and primarily working as **HR professionals** or **IT employees**, with a majority having **less than 10 years of experience**. This composition is well-suited for studying the impact of AI and digital practices in HR and IT domains, as younger and highly qualified professionals are more likely to adopt and engage with digital transformation initiatives. Thus, the demographic composition of the respondents highlights a young, educated, and professionally diverse workforce, making the sample highly appropriate for examining the role of digital and AI-enabled HR practices in organizational performance.

Table-02
Gender /Occupation wise Distribution of IT Employees

Gender	Level of Occupation				Total
	Managers	**IT Employees**	**H R Professionals**	**Others**	
Male	25 (55.55%)	45 (69.23%)	65 (59.09%)	37 (61.66%)	172 (61.43%)
Female	20 (44.44%)	20 (30.76%)	45 (40.90%)	23 (38.33%)	108 (38.57%)
N	45	65	110	60	280

Source: Compiled data

N represents number of IT employees surveyed.

Note: *Figures within parenthesis in this table and all the tables to follow represent Percentages while figures without parenthesis represent simple frequencies.*

The table- 2 presents the gender-wise and occupation-wise distribution of employees across different levels of occupation. Out of the total sample size of 280 employees, 172 (61.43%) are males and 108 (38.57%) are females, indicating that male employees constitute a majority of the workforce. Among managers, 25 (55.55%) are male and 20 (44.44%) are female, showing a relatively balanced distribution though slightly male-dominated. In the IT employees' category, males are significantly higher at 45 (69.23%) compared to females at 20 (30.76%), highlighting a strong male presence in technical roles. Similarly, among HR professionals, 65 (59.09%) are males and 45 (40.90%) are females, suggesting moderate gender disparity with a higher proportion of males. In the "Others" category, 37 (61.66%) are males and 23 (38.33%) are females, again reflecting a male dominance. Overall, the analysis indicates that while females are present across all occupational categories, their representation is consistently lower than that of males. The male workforce outnumbers the female workforce in all occupations, with the gap being widest in IT roles and narrowest among managers. This suggests that gender imbalance persists in the occupational structure, with males holding a majority share across different levels of employment. These findings highlight the need for organizations to adopt inclusive HR and AI-enabled practices to ensure balanced workforce participation and to bridge the gender gap across occupational roles.

Table-03
Gender /Experience wise Distribution of IT Employees

Gender	Level of Experience				Total
	Below 5 yrs	**06-10 yrs**	**11-15 yrs**	**Above 15 yrs**	
Male	62 (58.49%)	45 (60.81%)	35 (60.34%)	30 (71.43%)	172 (61.43%)
Female	44 (41.51%)	29 (39.18%)	23 (39.65%)	12 (28.57%)	108 (38.57%)
N	106	74	58	42	280

Source: Compiled data.

The table – 03 show that the workforce includes 280 employees, of whom 61.43% (172) are male and 38.57% (108) are female. Among those with **less than 5 years of experience**, 62 out of 106 employees (58.49%) are male and 44 (41.51%) are female—showing a relatively balanced gender composition in the most junior cohort.In the **6–10 years of experience** group, males comprise a slightly larger share at about 60.8% (45 of 74), while females account for nearly 39.2% (29). Similarly, within the **11–15 years** bracket, males represent approximately 60.3% (35 of 58), with females at 39.7% (23). The **most experienced** group, with more than 15 years on the job, shows the most skewed ratio: males account for 71.43% (30 of 42), versus just 28.57% (12) for females. In summary, across all experience categories, male representation consistently exceeds female representation. The gender disparity remains somewhat steady—hovering around 60% male and 40% female—for experience levels up through 15 years; it widens notably in the highest experience bracket. This pattern suggests that while early-career gender distribution is moderately balanced, females are progressively underrepresented at seniority levels.

The Table 04 presents a complete overview of the distribution of 280 employees by age and academic qualifications. The majority of employees are concentrated in the **26–30 age group (34.28%)**, which shows a balanced representation across all educational categories, particularly **Graduation (40.00%)** and **Diploma (36.00%)**, indicating a highly qualified early-career workforce. The **18–25 age group (27.14%)** follows closely, with strong representation in **Diploma (34.00%)** and **Post-Graduation (30.00%)**, suggesting that many are entering the workforce with technical or advanced degrees.

Table-04
Age/Academic qualification wise Distribution of IT Employees

Age	Academic qualification				Total
	Graduation	**Diploma**	**Post Graduate**	**Others**	
Below 18-25	15 (21.48%)	17 (34.00%)	30 (30.00%)	14 (23.33%)	76 (27.14%)
26-30	28 (40.00%)	18 (36.00%)	28 (28.00%)	22 (36.66%)	96 (34.28%)
31-35	10 (14.28%)	16 (32.00%)	28 (28.00%)	06 (10.00%)	60 (21.42%)
36-40	12 (17.14%)	-	14 (14.00%)	10 (16.66%)	36 (12.85%)
Above 40	05 (07.14%)	-	-	08 (13.33%)	12 (04.28%)
N	70	50	100	60	280

Source: Compiled data.

The **31–35 age group (21.42%)** also reflects a well-qualified segment, particularly in **Post Graduate (28.00%)** and **Diploma (32.00%)**, highlighting a tendency among mid-career professionals to pursue higher education. The **36–40 age group (12.85%)** has fewer employees, with a notable absence in the Diploma category but moderate presence in **Graduation (17.14%)** and **Post-Graduation (14.00%)**, indicating ongoing career development. The **Above 40** age group is the smallest (4.28%) and shows limited academic diversity, mainly concentrated in **Graduation (7.14%)** and **Others (13.33%)**, possibly reflecting retirement trends or a generational shift in hiring. **In conclusion, the organization has a predominantly young, academically qualified workforce, with a significant emphasis on post-graduate and others, particularly among employees aged 18–30.**

Table-05
Age/Occupation wise Distribution of IT Employees

Age	Level of Occupation				Total
	Managers	**IT Employees**	**H R Professionals**	**Others**	
Between 18-25	-	31 (47.69%)	32 (29.09%)	13 (21.66%)	76 (27.14%)
26-30	10 (22.22%)	29 (44.61%)	32 (29.09%)	25 (41.66%)	96 (34.28%)
31-35	10 (22.22%)	03 (04.61%)	32 (29.09%)	15 (25.00%)	60 (21.43%)
36-40	15 (33.33%)	-	14 (12.73%)	07 (11.66%)	36 (12.85%)
Above 40	10 (22.22%)	02 (03.08%)	-	-	12 (04.28%)
N	45	65	110	60	280

Source: Compiled data.

The table -05 illustrates the distribution of 280 employees across different age groups and occupational roles, highlighting key workforce patterns. The largest segment of employees falls within the **26–30 age group (34.28%)**, where most are employed as **IT Employees (44.61%)**, **HR Professionals (29.09%)**, and in **Other roles (41.66%)**, indicating a concentration of technical and support roles among early-career professionals. The **18–25 age group (27.14%)** also shows a strong presence in **IT (47.69%)** and **HR (29.09%)** roles, with no representation in managerial positions, suggesting that younger employees begin their careers in operational domains. The **31–35 age group (21.43%)** reflects a transitional stage, showing a balanced mix with growing presence in **Managerial (22.22%)**, **HR (29.09%)**, and **Other roles (25.00%)**, indicating career advancement. The **36–40 age group (12.85%)** shows the highest proportion of **Managers (33.33%)**, signifying a clear shift toward leadership roles, while the absence of IT employees in this age group may reflect career shifts

or upward movement into non-technical roles. The **Above 40 age group**, though the smallest (4.28%), is still notable for its presence in **Managerial roles (22.22%)**, confirming that leadership positions are predominantly occupied by experienced professionals. In conclusion, the data highlights a youthful, operationally focused workforce with clear evidence of career progression into managerial roles as employees gain experience and move into older age brackets.

Table-06
Academic qualification /Occupation wise Distribution of IT Employees

Qualification	Level of Occupation				Total
	Managers	**IT Employees**	**HR Professionals**	**Others**	
Graduation	10 (22.22%)	-	06 (05.45%)	54 (90.00%)	70 (25.00%)
Diploma	-	-	47 (42.72%)	03 (05.00%)	50 (17.86%)
Post-Graduation	06 (13.33%)	49 (75.38%)	45 (40.91%)	-	100 (35.71%)
Others	29 (64.44%)	16 (24.61%)	12 (10.91%)	03 (05.00%)	60 (21.43%)
N	45	65	110	60	280

Source: Compiled data.

The table- 06 provides insights into the distribution of 280 employees based on academic qualifications and occupational roles. **Post-Graduation** emerges as the most prevalent qualification, accounting for **35.71% (100 employees)**, with the majority employed as **IT Employees (75.38%)** and **HR Professionals (40.91%)**, indicating that higher academic credentials are closely linked with core banking roles. **Graduation**, representing **25.00% (70 employees)**, is predominantly associated with roles categorized under **Others (90.00%)**, with relatively fewer graduates in managerial (22.22%) or cashier positions (5.45%), suggesting a trend of graduates being placed in support or auxiliary functions. **Diploma holders**, forming **17.86% (50 employees)**, are largely found in **HR Professionals (42.72%)**, with no representation among Managers or **IT Employees**, which may reflect limitations in career progression for technically trained employees. Interestingly, those with **Other qualifications (21.43%)** dominate the **Managerial category (64.44%)**, possibly indicating internal promotions or alternative career pathways not strictly defined by formal academic degrees. In conclusion, the data reveals a clear pattern where higher academic qualifications, particularly post-graduation, are associated with IT Employees, while diploma and general graduates tend to occupy **support and administrative staff**, highlighting the role of education in career advancement within the organization.

Table-07
Consolidated Relationship of IT Employees

Variables	Chi-Square	DF	Level of Significance
Gender	0.970	03	Not Significant
Age	0.112	09	Not Significant
Experience	0.027	12	Significant*
Qualification	0.002	09	Significant*
Occupation	0.071	09	Not Significant

Source: Compile data, * Values are significant at 5 % level.

The table – 07 provides a summary of the chi-square test results examining the relationship between employee-related variables and their statistical significance at the 5% level. Among the five variables analysed — **Gender, Age, Experience, Qualification, and Occupation** — only **Experience** and **Qualification** show statistically significant relationships, with chi-square values of **0.027** and **0.002**, respectively. These findings indicate that the differences in employee-related outcomes are significantly influenced by the level of experience and

educational qualification. In contrast, the variables **Gender (Chi-square: 0.970)**, **Age (0.112)**, and **Occupation (0.071)** were found to be not statistically significant, suggesting that these factors do not have a strong or meaningful influence on the dependent outcomes being studied. In conclusion, the analysis highlights that employees' experience and qualifications are key factors significantly affecting their roles or perceptions, while gender, age, and occupation show no notable statistical impact.

The table – 08 categorizes AI usage across five key HR functions—Resume Screening, Performance Monitoring, Learning & Development, Predictive Attrition Analysis, and Employee Engagement Tracking—into three levels of frequency: Frequently, Occasionally, and Rarely/Never.

Table -08
Extent of AI Usage in HR Functions

HR Function	Frequent	Occasional	Rarely/Never
Resume Screening	76.10	18.23	05.77
Performance Monitoring	68.97	21.42	09.79
Learning & Development	62.53	25.70	11.85
Predictive Attrition Analysis	51.42	31.13	17.50
Employee Engagement Tracking	58.93	29.38	11.83

Source: *Compiled data.*

It shows that AI is most commonly used in resume screening (76.10%) and performance monitoring (68.97%), reflecting strong adoption in data-driven HR tasks. Learning & development and employee engagement tracking also see moderate usage, while predictive attrition analysis has the lowest frequency of use (51.42%), indicating it is still in the early stages of adoption. The overall trend highlights AI's growing role in HR, particularly in areas where automation provides immediate efficiency benefits. But more advanced functions, such as forecasting employee turnover, remain in the pipeline. As AI technology advances, its application in all HR functions will increase. The evidence points to a very strong trend of AI application in HR, particularly where automation yields quick efficiency gains. While resume screening and performance monitoring are already very automated, more advanced functions such as predictive attrition analysis remains to be developed. With the next generation of AI technologies, it is anticipated that their application will reach all HR functions to create even greater innovation and operating efficiency in human resource management.

Table - 09
ANOVA: Differences in AI perceptions Based on Job Role

Source	SS	Df	MS	F	Sig.
Between Groups	8.43	2	4.215	5.27	.006
Within Groups	221.34	277	0.799		
Total	229.77	279			

Source: *Compiled data.*

The table -09 shows that ANOVA test was employed to examine whether there are statistically significant differences in AI effectiveness perceptions among HR professionals, IT Employees and Mid-level managers. It was discovered that there is a statistically significant difference among the groups, as evidenced by an F-value of 5.27 and p-value of 0.006, which is considerably less than the standard threshold of 0.05. In particular, HR professionals evaluated AI tools more favourably compared to IT Employees and Mid-level managers. This discovery implies the necessity to consider job positions while implementing or evaluating AI solutions in the workplace, since different groups may have various experiences and expectations towards AI technologies.

Table - 10
Regression Analysis: Predicting Talent Retention Based on AI Adoption

Predictor Variable	β (Beta Coefficient)	p-value	Interpretation
AI in Recruitment	0.38	0.001**	Significant
AI in Performance Management	0.26	0.004**	Significant
AI in Learning & Development	0.33	0.002**	Significant

Source: *Compiled data.* (**R² = 0.47, F = 19.83, p < 0.01**).

Table 10 shows that a regression study was performed to investigate the impact of AI deployment across three HR domains—Recruitment, Performance Management, and Learning & Development—on talent retention. The model explains **47% of the variance (R² = 0.47)** in talent retention, and the overall model is statistically significant (**F = 19.83, p < 0.01**). Among the predictor variables, **AI in Recruitment** ($\beta = 0.38$, p = 0.001) emerged as the strongest predictor, indicating that AI-enabled recruitment practices significantly enhance talent retention by improving hiring efficiency and candidate-job fit. **AI in Learning & Development** ($\beta = 0.33$, p = 0.002) also shows a strong positive effect, suggesting that AI-driven personalized training and career development opportunities play a crucial role in retaining employees. **AI in Performance Management** ($\beta = 0.26$, p = 0.004) was also found to be significant, though comparatively weaker, reflecting that AI-based performance tracking and feedback mechanisms support retention, albeit to a lesser degree. Overall, the study establishes that AI adoption in HR functions significantly enhances talent retention, with the greatest impact observed in recruitment and employee development practices, thereby supporting the Resource-Based View (RBV) that technological capabilities serve as strategic assets for sustaining competitive advantage and the Technology Acceptance Model (TAM) which highlights employees' readiness to adopt AI-driven HR practices.

Implications:

The findings of the study suggest that the workforce in the IT sectors is primarily composed of young, highly educated professionals, which aligns with earlier research by **Kumar and Saini (2021), Singh and Sharma (2022).** This demographic profile—dominated by males aged between 26–30, mostly postgraduates, and working in HR or IT roles—provides a fertile ground for studying the adoption and impact of AI-driven HR practices. Young and educated employees are more likely to respond to emerging technologies, confirming the Technology Acceptance Model **(Davis, 1989),** in which perceived ease of use and perceived usefulness drive technology adoption. Women are represented relatively equitably at entry levels, but the disparity grows exponentially at upper levels, suggesting possible gender-based impediments to women's promotion. This trend underscores the necessity of the implementation of gender-sensitive AI systems and inclusive HR practices guaranteeing equal opportunity **(Chandra A. &., 2020)**. AI-based HR systems must be designed with the ability to detect and circumvent algorithmic biases that inadvertently perpetuate existing gender disparities **(Manish Raghavan, 2020).**

Moreover, ANOVA and regression analysis indicate that the perception of employees and job title are influenced significantly by age and education but not by gender, occupation, or experience. This implies the need for education in career development, consistent with the Resource-Based View (Barney, 1991), which emphasizes the strategic significance of human capital in sustaining competitive advantage. Organisations, therefore, must invest in on-going learning and career development activities to prevent disadvantage through fewer formally educated employees.

The differential effect of AI across various HR activities should also be emphasized. Although AI is extensively applied to mundane, efficiency-oriented activities such as resume screening and performance monitoring, more sophisticated applications—predictive attrition analysis, for example—are still to come. The job role determinant of AI attitudes (as attested

by ANOVA findings) also implies that effective AI integration involves a customized approach in terms of employees' functional setting and expectations (Venkatesh, 2003). Overall, the findings emphasize the significant role of strategic, participatory, and role-based AI deployment in HRM. Addressing workforce diversity, particularly gender imbalance, enhancing access to professional development, and aligning AI tools with employee needs are all crucial for maximizing the organizational benefits of digital transformation.

According to the findings, AI has the ability to transform personnel management in APCRDA's IT industry. HR managers can use AI to streamline recruitment and training procedures, but more attention is required to address employee concerns about AI in performance assessments. When using AI tools, organizations should consider employee engagement and communication techniques in order to develop a more positive attitude and adoption of AI in human resources. The current study did not include mediating variables such as perceived usefulness and trust in AI systems.

Conclusion:

This study looked at how AI-enabled human resource practices affected talent management in IT enterprises in the APCRDA region, with a focus on employee views of AI integration in recruitment, performance management, and learning and development roles. The findings show strong positive relationships between AI implementation in HR functions and benefits in recruitment effectiveness, employee productivity, and talent retention. The workers were most favorable when AI was utilized in recruitment and learning and development functions, where benefits such as customized learning paths, quicker recruitment, and enhanced candidate-job match were realized. The findings aver that AI-driven automation and personalization significantly improve employee experience and organizational performance in these functions.

The research made a link between the implementation of AI in HR processes and enhanced employee satisfaction, performance management, and talent acquisition. The employees were more optimistic in their attitude towards AI when used in recruitment and learning and development, particularly for customized learning paths and accelerated recruitment. Employees were sceptical of AI participation in performance appraisals due to data privacy and accuracy concerns. Overall, the research confirms that, when used judiciously, AI technologies could be strategic assets in reshaping HR processes and driving talent management results. Successful implementation, however, depends on achieving the balance between technical innovation and moral principles to support employee trust, diversity, and justice. The current research did not explore Mediating variables such as Perceived Usefulness and Trust in AI systems.

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