Journal of Informatics Education and Research
ISSN: 1526-4726
Vol 5 Issue 1 (2025)

Perceived Effectiveness of Artificial Intelligence in HRM Function in the IT Industry in India: An Empirical Study

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ABSTRACT:
In the Indian IT industry, AI has reshaped human resource management (HRM). This means streamlining operations is easy, with AI-enhanced recruitment systems that scan resumes, match profiles to the job description, and guess the candidate's career success based on historical data. By fielding routine HR queries, chatbots and virtual assistants reduce administrative burden and improve response time. By analyzing work patterns, project contributions, and feedback, AI applications in employee performance evaluation assist in impartial assessments. HR managers can predict attrition rates and adopt retention strategies by using workforce analytics.

Despite these benefits, the perceived impact of AI in HRM is not uniform amongst stakeholders. Although HR professionals recognize its importance in minimizing repetitive, tedious tasks and enhancing efficiency, concerns include loss of data privacy, algorithmic bias, and the possible dehumanization of HR processes. Some employees have said they appreciate the convenience of the AI-driven HR services, others have raised questions about the absence of human judgement in performance appraisals, grievance redressal, and promotion decisions. Hence, this study discusses these views to examine if AI in HRM is envisaged as a value creation artefact or as a disruptor. The Indian IT sector is an exception here as it is a fast-moving sector in terms of digital transformation and they thrive on the workforce. For HRM, businesses adopting AI introduce their organizations to insights that competitors may not have, but there are challenges to adoption, including exploratory costs, resistance among users, and the critical need for responsible AI. The study offers insights on how IT companies must balance AI automation with human intervention in order to foster employee trust and maximize organisational efficiency.

A sample of 210 people from HR department of IT sector were surveyed to explore the factors that determines Perceived Effectiveness of Artificial Intelligence in HRM Function in the IT Industry

in India and found that Transparency, Privacy and Security, Bias and Fairness, and Adaptability are the factors that determines Perceived Effectiveness of Artificial Intelligence in HRM Function in the IT Industry.

Keywords- HRM , AI based Hrm, Indian It sector

Introduction

Artificial intelligence (AI) is emerging as a key disruptor across diverse sectors, including human resource management (HRM) within India's information technology (IT) industry. AI is ultimately transforming traditional HRM processes and providing new solutions to age-old problems. Through various applications and benefits of AI in HRM and its challenges, this introduction discusses how India's IT industry perceives the effectiveness of AI in HRM.

Singh et al. **(2020)** within recruitment, AI can streamline the analysis of candidates based on resumes and applications. This feed consists of algorithms that leverage the information in large datasets from job portals and social networks to find potential candidates whose profiles are a match for specific job requirements. Such data-based strategies enable more efficient and targeted talent acquisition compared to the traditional ways that require more time and effort.

AI integration is also helpful to performance management. Budhwar et al. **(2022)** aI there tracks employee performance metrics, providing real-time and objective insights that inform decisions around promotions, compensation and professional development opportunities. These constant assessment lets them see how things are going to be able to use facts (in a split second) rather than period reviews. These algorithms process data from job portals and social networks to match candidates with job requirements. Such data-driven strategies enhance talent acquisition by saving time and work. Murugesan et al. **(2023)** ai also monitors employee performance stats, providing real time insights for promotion, pay, and career trajectory decisions. AI-enabled assessments report facts in real time, not on a periodic basis. AI turns raw employee feedback into actionable insights, enabling HR to identify and correct problems and enhance workforce contentment. AI also automates repetitive tasks, allowing HR teams to use their time and resources on more strategic projects. Because AI pulls data instead of relying on perception, it can reduce bias in any decision-making process. Organisations can also benefit from AI prediction of workforce requirements, allowing them to plan their staffing well and avoid interruptions.

Enjoying these benefits, however, AI in HRM comes with its challenges. Strong security for Your Employee Data Privacy Issues Another concern over algorithmic bias, where AI systems trained on biased datasets replicate and reinforce prejudices. Bhardwaj et al. **(2020)** as HR processes become increasingly automated, employees can sometimes feel like a number which may have a detrimental impact on morale.

India mainstreamed IT sector has a strong presence and presence on the global landscape, making them pioneers in AI adoption in HRM. AI is driven by rapid shifts in the industry and the need for skilled workers. Nonetheless, workplace culture, HR preparedness, and data regulations all determine AI adoption. Some improvements include efficiency, objectivity and better planning and downsides such as loss of privacy, injustice and loss of human interactions This means that ethical frameworks need to be followed while organisations apply AI achieving their business goals. As the field of AI progresses, HRM will stem deeper into AI and this means that adaptability, and learning become a must for all stakeholders.

Literature review

AI is revolutionizing the recruitment process by utilizing data obtained from job portals and social media to source and screen candidates. AI recruitment tools use algorithms to automate candidate identification and evaluation. These tools double as bug scanners and conduct comparisons of candidate profiles against job requirements and perform early stages of the recruitment process. This automation accelerates hiring and frees recruiters to do strategic work.

Verma & Bandi **(2019)** natural language processing allows AI to analyze resumes and applications to optimize screening, as well. This is an analysis of experience, skills and education and since these are looking very broad-based, this provides a larger view than the older method of going through the resumes. Due to human error and unconscious bias, hiring decisions are unlikely to be impartial—but AI-powered recruitment eliminates these factors. AI also makes a more inclusive recruitment process by focusing on people's qualifications rather than personal characteristics.

Candidate interactions are handled by AI-powered chatbots that answer questions and provide details about application status. These chatbots keep the candidates engaged and help in quick responses. AI also improves recruitment with predictive analytics. AI examines historical hiring data to understand trends, as well as to know what to avoid in the future when acquiring talent. These AI-driven insights allow recruiters to prepare and execute effective hiring strategies.

Sharma et al. **(2022)** ai can streamline the onboarding process by automating tasks such as document management and scheduling. This reduces administrative time and allows for a clear onboarding process. AI also personalizes training by curating material based on employee performance and feedback. AI offers extra resources or reframes information when employees are struggling with a topic. AI realises smart learning by recognizing upcoming unknowns and guiding precise training. AI-powered insights like these help HR teams to develop training programs to up-skill the labor force.

AI also forecasts what skills will be required in the future, based on trends in the industries. This information is used by HR teams to train employees for the changing nature of their jobs. Personalised learning path beings created with the help of these AI-driven platforms keeps the employees engaged and increases their retention. The above training techniques are morale boosters and keep the employees professionally engaged.

Islam et al. **(2022)** ai streamlines mundane HR processes such as payroll, benefits, and employee data handling. AI does payroll more quickly and accurately, decreasing HR burden. AI is also monitoring real-time performance metrics for employees and allows HR to leverage data-driven information to assess employee promotions and professional growth. AI also gets rid of periodic reviews by continuously monitoring performance, which increases HR efficiency and helps with better performance decision-making.

AI generates enormous amounts of employee data, which present privacy and security issues. Sensitive information should be protected through encryption, security audits and compliance with regulations governing data. Employees need to know how their data is being collected, stored, and used. For these reasons, AI adoption in HRM must involve the collection, analysis, and use of ethical data and transparency in order to maintain employees' trust. AI contributes to HRM

by optimizing recruitment processes, workforce planning, and performance evaluation, among other areas. Kshetri **(2021)** ai makes processes more efficient, sparing these professionals to spend their time on strategy. Comments from all types of readers are welcomed. But concerns remain about data privacy; bias; and dehumanisation. AI-based appraisal and grievance systems need to be right size between algorithm and intelligence.

AI in HRM must incorporate human input carefully so as to not lose fairness due to bias. AI may aid HR, but it cannot replicate human instincts in decision-making. Company's need to balance the speed and efficiency of AI with ethics and employee engagement.

As AI progresses, organisations should invest in education and flexibility to make the most of AI's advantages, whilst maintaining an employee-focused HR environment. The Future of HRM with AI: AI, along with a human touch, will guide the future of HRM and enable organisations to win. Organisations need to adopt ethical AI practices in HRM since if biased data is used in AI it can lead to unfair results in hiring, performance evaluations and promotions. AI systems learn based on the data provided them, and this historical data may include biases surrounding gender and race, among other things. Khair et al. **(2020)** if organisations do not work towards removing these biases, AI might end up giving favourable treatment to certain groups while disadvantaging others. For instance, an AI model trained on data that is biased towards male candidates will unfavorably affect female candidates ссылка. Organisations can launch audits of AI systems to find and fix biased patterns to combat algorithmic bias. This means that AI algorithms need to be tested on heterogeneous data sets to verify that results are fair across all intersectional groups. A diverse team must create and monitor AI systems to identify and mitigate possible biases. Organisations also need to set clear accountability mechanisms who will monitor and solve AI-driven HRM ethical issues.

Kumar et al. **(2024)** transparency is a fundamental tenet of ethical AI. Organisations must make AI decisions intelligible to individuals. For example, HR teams must explain why an AI system did not choose a person for a position. Qamar et al. **(2021)** such transparency increases the fairness of AI and its trust by employees and applicants. AI boosts HRM efficiency and decision-making but requires organizations to manage risks to realize its benefits. Responsible AI adoption is focused on data privacy, ethical use cases and bias mitigation in the algorithm. By following these series of steps, organisations can leverage AI effectively without compromising fairness, transparency, and trust in HR processes.

Objective

1. To explore the factors that determines Perceived Effectiveness of Artificial Intelligence in HRM Function in the IT Industry in India.

Methodology

A sample of 210 people from HR department of IT sector were surveyed to explore the factors that determines Perceived Effectiveness of Artificial Intelligence in HRM Function in the IT Industry in India. This study is based on a survey conducted using a structured questionnaire specifically designed for this research. The primary data was collected using a "random sampling method," and "Factor Analysis" was employed to derive the results.

Findings

The table below presents the general details of the respondents where male contributes 54.3% to total study survey population and rest 45.7% are female. 32.9% are below 32 years of age, 40.0% are 32-38 yrs and the remaining 27.1% are above 38 years of age. 19.5% are HR manager, 30.0% are HR generalist, 17.6% are HR specialist, 24.8% are HR coordinator, and rest 8.1% are working on other positions in HR department. 30.0% are working from less than 5 years, 37.0% from 5-8 years and rest 32.4% are working for more than 8 years in HR department.

"Table 1 Demographic details"

"Variable"	**"Respondents"**	**"Percentage"**
Gender		
Male	114	54.3
Female	96	45.7
Total	**210**	**100**
Age		
Below 32 yrs	69	32.9
32-38	84	40.0
Above 38 yrs	57	27.1
Total	**210**	**100**
Designation		
HR manager	41	19.5
HR generalist	63	30.0
HR specialist	37	17.6
HR coordinator	52	24.8
Others	17	8.1
Total	**201**	**100**
Work experience		
Less than 5 yrs	63	30.0
5-8 yrs	79	37.6
More than 8 yrs	68	32.4
Total	**201**	**100**

"Table 2 KMO and Bartlett's Test"

"Kaiser-Meyer-Olkin Measure of Sampling Adequacy"		.840
"Bartlett's Test of Sphericity"	"Approx. Chi-Square"	2133.397
	"df"	105
	"Sig."	.000

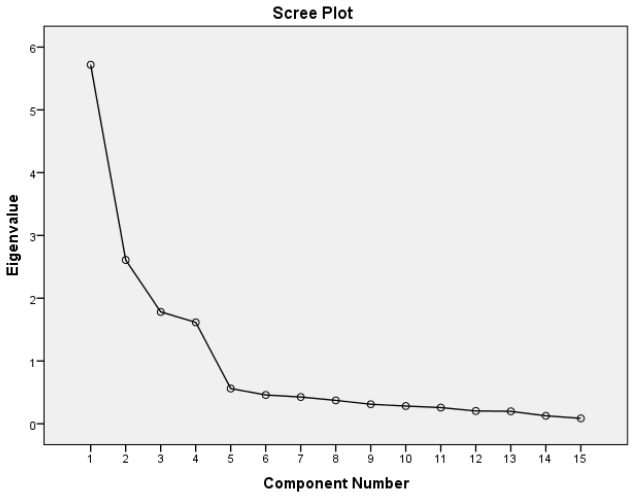
KMO value in table 2 is 0.840 and the "Barlett's Test of Sphericity" is significant.

"Table 3 Total Variance Explained"

"Component"	**"Initial Eigen values"**			**"Rotation Sums of Squared Loadings"**		
	"Total"	**"% of Variance"**	**"Cumulative %"**	**"Total"**	**"% of Variance"**	**"Cumulative %"**
1	5.718	38.122	38.122	3.154	21.026	21.026

2	2.609	17.391	55.513	3.002	20.014	41.040
3	1.781	11.874	67.387	2.901	19.337	60.377
4	1.615	10.764	78.151	2.666	17.773	78.151
5	.560	3.736	81.886			
6	.459	3.057	84.944			
7	.426	2.838	87.781			
8	.372	2.478	90.260			
9	.310	2.069	92.329			
10	.282	1.878	94.207			
11	.257	1.713	95.920			
12	.203	1.355	97.276			
13	.197	1.315	98.591			
14	.126	.840	99.431			
15	.085	.569	100.000			

"Principal component analysis" shows 15 variables from 4 Factors. The factors explained the variance of 21.026%, 20.014%, 19.337% and 17.773% respectively. The total variance explained is 78.151%.



"Table 4 Rotated Component Matrix"

"S. No."	**"Statements"**	**"Factor Loading"**	**"Factor Reliability"**
	Transparency		**.896**
1	Employee must know what data is collected by the AI system	.913	
2	AI system must allow employee to know what they process	.864	
3	Clear understanding of how AI makes decisions	.803	
4	AI models should provide clear reasoning for outcomes	.757	
	Privacy and Security		**.884**
5	Strong security for employee data privacy issues	.873	
6	Sensitive information should be protected	.835	

7	Regular encryption, security audits and compliance with regulations governing data	.816	
8	Ensuring compliance with data security regulations	.777	
	Bias and Fairness		**.872**
9	AI system must reduce bias in any decision-making process	.901	
10	AI systems trained on biased datasets replicate and reinforce prejudices	.815	
11	AI in HRM must incorporate human input carefully so as to not lose fairness due to bias	.809	
12	A diverse team to monitor AI systems to identify and mitigate possible biases	.700	
	Adaptability		**.927**
13	Flexibility in AI to adapt different company policies	.963	
14	AI able to handle an increased number of employees, roles, and HR functions	.936	
15	AI system must be compatible to HRM system	.894	

Table 4 shows factors that determines Perceived Effectiveness of Artificial Intelligence in HRM Function in the IT Industry in India where factor "Transparency" includes the variables like Employee must know what data is collected by the AI system, AI system must allow employee to know what they process, Clear understanding of how AI makes decisions and AI models should provide clear reasoning for outcomes. Factor "Privacy and Security" includes the variables like Strong security for employee data privacy issues, Sensitive information should be protected, Regular encryption, security audits and compliance with regulations governing data and Ensuring compliance with data security regulations. Factor "Bias and Fairness" includes the variables like AI system must reduce bias in any decision-making process, AI systems trained on biased datasets replicate and reinforce prejudices, AI in HRM must incorporate human input carefully so as to not lose fairness due to bias and A diverse team to monitor AI systems to identify and mitigate possible biases. Factor "Adaptability" includes the variables like Flexibility in AI to adapt different company policies, AI able to handle an increased number of employees, roles, and HR functions and AI system must be compatible to HRM system.

"Table 5 Reliability Statistics"

"Cronbach's Alpha"	"N of Items"
.857	15

The value of "Cronbach's Alpha" should be more than 0.07. Total reliability is 0.857 for 4 constructs including fifteen, hence it is sufficient.

Conclusion

Striking a balance between AI's capability of handling work at speed and scale, and the need for ethical considerations, transparency, and employee engagement is key to building trust in AI-driven HR processes.

AI will help IT companies gain a competitive edge through predictive analytics hassle-free strategic workforce management. Yet, the successful adoption of AI will require both investment in building responsible AI practices — addressing employee fears surrounding AI and ensuring

compliance with data security regulations. As AI advances, organisations must embrace ongoing education and adaptability to harness AI's full potential while ensuring an equitable and employee-focused HR landscape. By adopting a harmonious combination of technology and human touch, AI has the potential to elevate HRM to new heights and lead to greater success for organizations in the future.

The study aims to explore the factors that determines Perceived Effectiveness of Artificial Intelligence in HRM Function in the IT Industry in India and found that Transparency, Privacy and Security, Bias and Fairness, and Adaptability are the factors that determines Perceived Effectiveness of Artificial Intelligence in HRM Function in the IT Industry.

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