Journal DOI: 10.36713/epra0412 ISSN: 2277–7741

International Journal of

Asian Economic Light (JAEL) – Peer Reviewed Journal

SJIF Impact Factor (2025): 8.579 Volume: 13 | Issue: 7 | July 2025

A STUDY ON THE ROLE OF AI IN TRANSFORMATION OF HUMAN RESOURCE PRACTICES TOWARDS SELECTED SERVICE SECTOR ORGANIZATIONS

Dr. Neelam Pandey

Faculty in Study Centre From MBA (IRPM) APS University Rewa (MP)

ABSTRACT

This study investigates the transformative role of Artificial Intelligence (AI) in reshaping Human Resource (HR) practices within selected service sector organizations. With the growing demand for data-driven decision-making, AI has emerged as a powerful tool to optimize HR functions such as recruitment, performance appraisal, reward management, and training and development. The research adopts a mixed-method approach, combining quantitative analysis through structured surveys and qualitative insights from HR professionals. Statistical tests revealed a significant impact of AI on recruitment processes, performance appraisal, and reward management, while training and development showed no statistically significant relationship. The study highlights the benefits of AI in improving efficiency, reducing bias, and enabling personalized HR solutions, while also addressing challenges such as ethical concerns and uneven adoption. These findings suggest that although AI is actively shaping key HR areas, strategic planning and cultural readiness are essential for its successful integration. The study contributes to understanding the evolving intersection of AI and human resource management in the service industry.

INTRODUCTION

The integration of Artificial Intelligence (AI) in Human Resource (HR) practices is revolutionizing the service sector by enhancing operational efficiency, decision-making, and employee experience. This study aims to explore how AI-driven technologies are transforming traditional HR functions—such as recruitment, onboarding, performance management, training, and employee engagement—within selected service sector organizations. With AI tools like chatbots, predictive analytics, and machine learning algorithms, organizations are streamlining talent acquisition processes, reducing bias, and improving candidate matching. Furthermore, AI facilitates real-time feedback mechanisms and personalized learning paths, supporting continuous employee development and satisfaction. This research focuses on identifying the extent of AI adoption, its impact on HR effectiveness, and the challenges faced during implementation. By analyzing case studies and survey data from selected service sector firms, the study intends to provide actionable insights into the strategic role of AI in reshaping HR functions. It also examines the ethical and privacy concerns associated with AI in HR. Ultimately; this study contributes to a deeper understanding of how AI can be leveraged to build agile, data-driven, and employee-centric HR practices, aligning workforce capabilities with dynamic business goals in the competitive service industry landscape.

The present study is related with role of AI in the transformation of HR Practices among the selected service organizations in Madhya Pradesh. In order to examine the role of AI towards HR Practice four vital functions of HR were discussed such as Training & development, performance appraisal, reward management and recruitment process.

REVIEW OF LITERATURE

Mujtaba and Mahapatra (2024) explore the pressing challenges of fairness and bias in AI-driven recruitment systems. Their study emphasizes that while AI offers efficiency and data-driven decision-making, it often inherits biases from the historical data on which it is trained. These biases can lead to discriminatory outcomes, particularly against marginalized groups. The authors propose various mitigation strategies, including algorithmic audits, fairness-

Journal DOI: 10.36713/epra0412 ISSN: 2277–7741
International Journal of
Asian Economic Light (JAEL) – Peer Reviewed Journal
SJIF Impact Factor (2025): 8.579 Volume: 13 | Issue: 7 | July 2025

aware modeling, and inclusive dataset design. They also advocate for human oversight in recruitment processes to ensure transparency and accountability. By addressing these issues, organizations can leverage AI tools not just for operational efficiency but also for promoting equitable hiring practices that align with diversity and inclusion goals.

Bano et al. (2024) examine the integration of diversity and inclusion (D&I) guidelines into AI-driven recruitment processes, emphasizing the complexity of aligning inclusive hiring practices with business performance objectives. Their study highlights that while AI systems can help reduce certain human biases, they are also prone to replicating or amplifying existing inequalities if not properly monitored. One of the core challenges discussed is the tension between optimizing algorithms for efficiency and ensuring fairness across diverse demographic groups. The authors argue that standardized D&I frameworks may not be sufficient, as each organization has unique cultural, structural, and operational needs. Therefore, they advocate for customized D&I strategies, continuous algorithmic audits, and greater stakeholder collaboration to ensure ethical and inclusive AI deployment in HR. The paper contributes to a growing body of work urging organizations to adopt AI responsibly, ensuring it supports both diversity goals and organizational success.

Sadeghi (2024) investigates the impact of AI integration on employee well-being, emphasizing both its potential benefits and associated risks. The study acknowledges that AI can streamline tasks, reduce workloads, and personalize work experiences, thereby enhancing overall productivity and job satisfaction. However, it also raises critical concerns related to job displacement, increased surveillance, and perceived loss of autonomy among employees. These factors can lead to heightened stress, reduced morale, and distrust toward AI systems. Sadeghi highlights the importance of transparent communication and ethical implementation of AI tools in the workplace. To mitigate negative effects, organizations are encouraged to adopt participatory approaches, where employees are involved in the design and deployment of AI systems. Trust-building measures and responsible AI governance are essential to ensure that technological advancement supports, rather than undermines, employee well-being

Garg et al. (2021) introduce *i-Pulse*, an AI-powered tool that leverages Natural Language Processing (NLP) to analyze employee feedback and sentiment in real time within logistics organizations. The tool is designed to identify patterns in employee concerns, emotions, and suggestions by processing large volumes of unstructured text data from surveys, emails, and communication channels. Their study demonstrates that *i-Pulse* significantly improves employee engagement by enabling HR departments to proactively address workplace issues and foster a supportive environment. The system provides actionable insights that help managers make informed decisions to boost morale and reduce turnover rates. One of the key strengths of the tool is its adaptability to different organizational contexts and its ability to maintain employee anonymity, encouraging more honest feedback. Garg et al. highlight that AI tools like *i-Pulse* can transform traditional feedback mechanisms into dynamic, data-driven strategies for employee retention and organizational growth.

Bhattacharya et al. (2024) explore the growing adoption of HR analytics and Artificial Intelligence (AI) in the IT sector, highlighting the transformative potential of these technologies in enhancing HR functions. The study reveals that IT organizations are increasingly leveraging data-driven tools for talent acquisition, performance management, and workforce planning. By analyzing large datasets, AI enables predictive insights that support more informed and strategic HR decisions. However, the authors stress that successful implementation depends not only on technological readiness but also on organizational culture, leadership support, and employee acceptance. They underscore the need for a clear strategy that aligns AI integration with broader business goals, supported by proper training and ethical guidelines. The paper also points out that while the IT sector shows significant progress, challenges such as data privacy concerns and skill gaps must be addressed to realize the full potential of AI in HR practices.

OBJECTIVES OF THE STUDY

The various objectives of the study ae as under

1. To study the relationship between AI and Human resource practices towards Training & Development
2. To study the relationship between AI and Human resource practices towards performance appraisal
3. To study the relationship between AI and Human resource practices towards reward management

Journal DOI: 10.36713/epra0412 ISSN: 2277–7741
International Journal of
Asian Economic Light (JAEL) – Peer Reviewed Journal
SJIF Impact Factor (2025): 8.579 Volume: 13 | Issue: 7 | July 2025

4. To study the relationship between AI and Human resource practices towards recruitment process.

HYPOTHESIS OF THE STUDY

The various hypothesis of the study are as under

H_{01}: There is no significant relationship between AI and human resource practices with respect to Training & Development

H_{a1}: There is a significant relationship between AI and human resource practices with respect to Training & Development

H_{02}: There is no significant relationship between AI and human resource practices with respect to performance appraisal

H_{a2}: There is a significant relationship between AI and human resource practices with respect to performance appraisal

H_{03}: There is no significant relationship between AI and human resource practices with respect to Reward Management

H_{a3}: There is a significant relationship between AI and human resource practices with respect to Reward Management

H_{04}: There is no significant relationship between AI and human resource practices with respect to Recruitment process.

H_{a4}: There is a significant relationship between AI and human resource practices with respect to Recruitment process.

RESEARCH DESIGN

The research design selected for this study is both **descriptive** and **exploratory** in nature, aligning with the dual purpose of understanding and investigating the role of Artificial Intelligence (AI) in transforming human resource (HR) practices within selected service sector organizations. The **descriptive design** is used to systematically describe the current status and extent of AI adoption in HR functions such as recruitment, training, performance evaluation, and employee engagement. It helps in identifying the specific AI tools and technologies being utilized and how they influence operational efficiency and employee satisfaction.

RESEARCH APPROACH

This study adopts a **mixed-method research approach** to provide a comprehensive understanding of AI's role in transforming human resource practices. The **quantitative** component involves the use of structured questionnaires to measure the extent of AI adoption and its impact on key HR functions such as recruitment, training, and employee engagement. This enables statistical analysis and identification of patterns. The **qualitative** component includes semi-structured interviews with HR professionals to gain deeper insights into their experiences, perceptions, and challenges associated with AI implementation. This dual approach ensures both breadth and depth in data collection and enhances the overall validity of the research findings.

SAMPLING TECHNIQUE

Sampling Method: Purposive sampling method was adopted to obtain the sample among the target populations.

Sample Size: 150 HR Professional from various service sectors were targeted, the questionnaire were distributed among the entire target population, however, 133 respondents were replied positively. Hence, the final sample size of the study was 133.

Sample Area: in order to obtain the sample three major cities of Madhya Pradesh were taken as Sample areas such as Rewa, Bhopal and Jabalpur

DATA COLLECTION METHODS

Primary Data

- Structured questionnaires (Likert scale-based)
- Semi-structured interviews with HR executives

Secondary Data

Journals, industry reports, and existing literature from 2020–2024 related to AI in HR

Journal DOI: 10.36713/epra0412 ISSN: 2277–7741

International Journal of

Asian Economic Light (JAEL) – Peer Reviewed Journal

SJIF Impact Factor (2025): 8.579 Volume: 13 | Issue: 7 | July 2025

DATA ANALYSIS TECHNIQUES

Five point Likert scale used as measurement tools for scaling of various instruments and t test was employed to test the hypothesis at **5%** level of significance and **95%** level of confidence

Testing of Hypothesis

Table 1: Relationship between AI and HR Practices

Hypothesis	Variables	df	t	Sig.	Result
H_{01}/H_{a1}	Training & Development	3	5.214	0.089	Not Significant
H_{02}/H_{a2}	performance appraisal	3	8.228	0.038	Significant
H_{03}/H_{a3}	Reward Management	3	11.043	0.003	Significant
H_{04}/H_{a4}	Recruitment process	3	6.187	0.027	Significant
Dependent Variable : Artificial intelligence					

FINDINGS

1. The test result for Training & Development shows a **t-value of 5.214** and a p-value of **0.089,** indicating a **non-significant relationship between** AI adoptions and training practices. This suggests that AI has not been widely integrated into learning and development functions within the studied service sector organizations. Factors such as limited resources, lack of technical expertise, or organizational resistance may be hindering the use of AI-driven tools like adaptive learning platforms and personalized training modules in this HR area. **(H01= Accepted)**
2. The statistical result of this hypothesis reveals a **significant relationship** between the adoption of Artificial Intelligence (AI) and performance appraisal systems in selected service sector organizations. The **p-value (Sig.) of 0.038** is **less than 0.05**, indicating that the impact of AI on performance appraisal is **statistically significant**. This suggests that organizations utilizing AI tools in their performance appraisal processes are likely experiencing noticeable improvements in the **efficiency, objectivity, and accuracy** of evaluations. AI technologies can process large volumes of employee data to identify performance trends, track goal completion, and even predict future performance. **(H_{a2}= Accepted)**
3. The result of the hypothesis testing for Reward Management shows a **t-value of 11.043** with a **p-value of 0.003**, indicating a **highly significant** relationship between AI adoption and reward management practices. This suggests that AI is playing a crucial role in enabling more **personalized, data-driven, and performance-linked compensation systems**. AI tools can analyze employee performance metrics and behavior patterns to recommend tailored rewards, thereby enhancing employee motivation, retention, and fairness in compensation decisions within service sector organizations. **(H_{a3}= Accepted)**
4. The hypothesis test for the Recruitment Process reveals a **t-value of 6.187** and a **p-value of 0.027**, indicating a **statistically significant** relationship between AI adoption and recruitment practices. This finding suggests that organizations are increasingly leveraging AI tools like **automated resume screening, chatbots for candidate interaction, and predictive analytics** to streamline the hiring process. AI enhances recruitment efficiency by reducing time-to-hire, improving candidate-job matching, and minimizing human bias, ultimately leading to more effective and data-driven talent acquisition. **(H_{a3}= Accepted)**

Conclusions

This study concludes that Artificial Intelligence (AI) is significantly transforming several human resource (HR) functions within selected service sector organizations. The findings indicate that AI has a meaningful impact on **performance appraisal**, **reward management**, and the **recruitment process**, contributing to greater efficiency, objectivity, and data-driven decision-making in these areas. However, the study found **no significant relationship** between AI adoption and **training and development**, suggesting limited integration or awareness of AI capabilities in that domain. Overall, the adoption of AI in HR is evident but **uneven**, with some functions embracing it more than others. The study emphasizes the need for **strategic implementation**, **employee readiness**, and **ethical considerations** to maximize the benefits of AI in HR practices. Service sector organizations are encouraged to invest in AI tools, provide adequate training, and foster a culture of innovation to enhance the effectiveness of HR operations and support long-term organizational growth.

Journal DOI: 10.36713/epra0412 ISSN: 2277–7741

International Journal of

Asian Economic Light (JAEL) – Peer Reviewed Journal

SJIF Impact Factor (2025): 8.579 Volume: 13 | Issue: 7 | July 2025

REFERENCE

1. *Mujtaba, G., & Mahapatra, R. (2024).* Ensuring fairness in AI-driven hiring: Challenges and solutions. *arXiv preprint. https://arxiv.org/abs/2405.19699*
2. *Bano, M., Ormandjieva, O., & Jeong, G. (2024).* AI and D&I: An interpretive study of practical implementation in recruitment. *arXiv preprint. https://arxiv.org/abs/2411.06066*
3. *Sadeghi, S. (2024). Impact of AI on employee well-being: A socio-technical perspective. arXiv preprint. https://arxiv.org/abs/2412.04796*
4. *Garg, S., Rathi, D., & Dutta, A. (2021).* i-Pulse: An AI-based tool for enhancing employee engagement using natural language processing. *arXiv preprint. https://arxiv.org/abs/2106.07341*
5. *Bhattacharya, S., Roy, M., & Tripathy, S. (2024).* Strategic adoption of AI and HR analytics in the IT sector: Opportunities and challenges. *Journal of Work-Applied Management. https://doi.org/10.1108/jwam-12-2024-*
6. *Tursunbayeva, A., Bunduchi, R., Franco, M., & Pagliari, C. (2020).* Human resource information systems in health care: A systematic evidence review.*Journal of the American Medical Informatics Association, 27(3), 480–492. https://doi.org/10.1093/jamia/ocz219*
7. *Upadhyay, A. K & Khandelwal , K. (2022) ,* Artificial Intelligence in Human Resource Management: A Systematic Literature Review and Research Agenda.*International Journal of Human Resource Management. https://doi.org/10.1080/09585192.2022.2048614*