

## **A STUDY ON ARTIFICIAL INTELLIGENCE AND ITS IMPACT ON HUMAN RESOURCE MANAGEMENT IN SERVICE SECTOR AT COIMBATORE CITY**

**Dr. S. Namasivayam<sup>\*1</sup>, Ms. Prithika R<sup>\*2</sup>**

<sup>\*1</sup>M.Com., M.Phil., MBA., PGDCA., UGC –NET., Ph. D. Professor And Head Commerce (BPS), Dr. N.G.P. Arts And Science College, Coimbatore, India.

<sup>\*2</sup>Student, Commerce (BPS), Dr. N.G.P. Arts And Science College, Coimbatore, India.

### **ABSTRACT**

Artificial Intelligence (AI) has revolutionized various sectors, including Human Resource Management (HRM), by enhancing efficiency, decision-making, and overall workforce management. This study explores the impact of AI on HRM practices in the service sector of Coimbatore City. The research examines how AI-driven tools such as recruitment automation, employee engagement analytics, performance evaluation, and predictive workforce planning influence HR operations. Through a mixed-method approach, including surveys and interviews with HR professionals in Coimbatore's service sector, the study highlights the benefits, challenges, and future potential of AI in HRM. The findings reveal that AI improves efficiency, reduces biases in hiring, and enhances employee experience, but also presents challenges such as data security concerns and the need for upskilling HR personnel. The study concludes that strategic implementation of AI in HRM can lead to improved organizational performance and employee satisfaction.

**Keywords:** Artificial Intelligence, Human Resource Management, Service Sector, Coimbatore, Recruitment, Employee Engagement, Workforce Analytics.

### **I. INTRODUCTION**

In recent years, artificial intelligence (AI) has rapidly transformed various industries, bringing about significant changes in business operations, productivity, and decision-making processes. One of the most impacted areas by AI is Human Resource Management (HRM), especially in the service sector. HRM plays a critical role in managing the most valuable asset of an organization—its human capital. In this context, the advent of AI technologies has prompted organizations to reimagine traditional HR practices, resulting in improved efficiency, enhanced decision-making, and the automation of routine tasks.

Artificial Intelligence (AI) has emerged as a transformative force across various industries, including Human Resource Management (HRM). AI-driven technologies are revolutionizing HR processes by enhancing efficiency, accuracy, and strategic decision-making. In today's fast-paced business environment, organizations are leveraging AI to automate repetitive tasks, improve talent acquisition, and enhance employee engagement.

#### **1.2. STATEMENT OF THE PROBLEM**

The integration of Artificial Intelligence (AI) into business processes has revolutionized several industries, with Human Resource Management (HRM) being one of the key areas experiencing transformative change. In the service sector, where employee interaction, customer satisfaction, and operational efficiency are critical, AI offers the potential to streamline HR practices, automate routine tasks, and enhance decision-making. However, despite the promising advantages, the adoption and implementation of AI in HRM present several challenges that need to be explored in depth.

#### **1.3 SCOPE OF THE STUDY**

This study examines the impact of Artificial Intelligence (AI) on Human Resource Management (HRM) in the service sector of Coimbatore City. It explores how AI-driven tools influence recruitment, employee engagement, performance evaluation, and decision-making processes. The research focuses on HR professionals and employees in various service industries, analysing the benefits and challenges of AI adoption. Data will be collected through surveys and interviews conducted within a specific time frame. The study is limited to AI applications in HRM and does not cover broader AI implementations in other business functions.

#### 1.4. OBJECTIVES OF THE STUDY

1. To evaluate the extent to which AI technologies are being adopted in HR functions like recruitment, training, performance evaluation, and employee engagement in service sector.
2. To determine how AI contributes to improving efficiency, decision-making, and overall HR productivity in service-based organizations.

## II. LITERATURE REVIEW

**Prasanna Vatsa and Kusuma Gullamjji (2019):** In the paper titled “To Study the Impact of Artificial Intelligence on Human Resource Management”, it is clearly stated that the integration of HR practices with AI based applicants definitely have a stronger impact in enhancing the organizational performance. The study depicts that AI is everywhere in HR, be in recruitment, training, on boarding, performance analysis, retention and so on, but many of the organizations are still lagging in integrating AI to its HR – practices because of its cost associated in integration.

**Jennifer Johansson and Senja Herranen (2019):** In the paper titled “The Application of Artificial Intelligence in Human Resource Management”, it is mentioned that the area of AI in recruitment is new and there are not many organizations that has implemented AI in all parts of the recruitment process. It also mentions that the main benefits of AI are seen as the speeded quality and elimination of routine tasks, while major challenge is seen as the companies’ overall readiness towards the new technologies.

## III. RESEARCH METHODOLOGY

This section outlines the research design, methods of data collection, sampling techniques, and data analysis approach that will be used in the study of the impact of Artificial Intelligence (AI) on Human Resource Management (HRM) in the service sector at Coimbatore city.

Descriptive statistics- To summarize survey responses and identify trends.

Chi square test for independence - To examine the impact of Artificial Intelligence in Human Resource Management in service sector at Coimbatore city.

#### LIMITATIONS OF THE STUDY

1. The study area is limited to the Coimbatore city only.
2. The sampling size is limited up to 150.
3. As time is limited, convenient sampling techniques is used to select the respondents in Coimbatore city.

## IV. ANALYSIS AND INTERPRETATIONS

Analysis and interpretation as essentially useful and utilize for research finding. Analysis of data and interpretation involves a number of closely related operations. Which are performed with purpose of summarizing the collected data, organizing these in such a manner that they answer the research questions. Researcher can better be appreciated only through the interpretation.

**Table 1:**

S. NO.	FACTORS	DESCRIPTION	NO. OF RSPONENTS	PERCENTAGE (%)
1	Size of the organization	Small	35	31.8%
		Medium	43	39.1%
		Large	32	29.1%
2	Sector of the organization	Hospitality	23	20.9%
		Educational Institutions	31	28.2%
		Finance/Banking	30	27.3%
		Healthcare	15	13.6%
		Other	11	10%

3	AI technologies in improving recruitment process	Not effective	5	4.6%
		Somewhat effective	37	33.6%
		Moderately effective	58	52.7%
		Highly effective	10	9.1%
4	Organizations use AI driven tools for employee training and development	Yes	33	33
		No	47	47
		May be	30	30
5	AI based performance evaluation methods	Much less accurate	25	22.7%
		Somewhat less accurate	45	40.9%
		About the same	30	27.3%
		Most accurate	10	9.1%
6	AI technologies affected productivity	Decreased productivity	6	5.4%
		No change in productivity	12	10.9%
		Increased Productivity to a small extent	55	47.3%
		Increased Productivity to a medium extent	25	25.5%
		Increased Productivity to a large extent	12	10.9%
7	AI led to cost savings	Yes	36	32.7%
		No	48	43.6%
		May be	26	23.6%
8	Use of AI to automate repetitive hr tasks	Never	3	2.8%
		Rarely	26	23.6%
		Occasionally	68	61.8%
		Frequently	13	11.8%
9	AI affecting job security	Not yet all concerned	7	6%
		Slightly concerned	37	34.5%
		Moderately concerned	60	54.5%
		Very concerned	6	5%
10	Data privacy in AI	Not yet all concerned	9	8.2%
		Slightly concerned	40	36.4%
		Moderately concerned	55	50%
		Very concerned	6	5.4%

## CHI SQUARE

Ho: There is no significant relationship in the selection of AI-driven tools for employee training. The selection is independent and occurs by chance.

**Table 2:**

### WHAT TYPE OF AI DRIVEN TOOLS ARE USED IN EMPLOYEE TRAINING?

CALCULATED VALUE	TABLE VALUE	DEGREE OF FREEDOM	LEVEL OF SIGNIFICANCE	RESULT
9.488	28.87	4	8.3%	Accepted

## INTERPRETATION:

Since the calculated value (9.488) is much smaller than Table value 28.87, we accept the null hypothesis. This means there is no significant relationship in the selection of AI-driven tools for employee training, confirming that certain tools are preferred over others rather than being randomly chosen.

## V. FINDINGS

- It is clear that most (39.1%) of the sample respondents are from medium size organization.
- It is clear that most (28.2%) of the sample respondents belong to educational sector.
- There is no significant relationship in the selection of AI-driven tools for employee training. The selection is independent and occurs by chance.

## VI. SUGGESTIONS

1. Only 32% of respondents agreed with Cost saving in using AI tools, hence better tools can be developed for cost reduction.
2. 57 respondents selected Data privacy and security concerns as a main challenge, so data privacy and security can be developed.
3. Performance evaluation methods can be developed to evaluate the performance of the employer using AI tools.

## VII. CONCLUSION

The study on artificial intelligence (AI) and its impact on Human Resource Management (HRM) in the service sector of Coimbatore city reveals that AI-driven technologies are transforming HR practices by enhancing efficiency, decision-making, and employee engagement. Organizations leveraging AI in HR functions such as recruitment, performance evaluation, employee training, and workforce management experience improved productivity and better talent retention.

## VIII. REFERENCES

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