

Do AI-Enabled HR Practices Enhance Customer Experience? The Mediating Role of Employee Engagement: Evidence from Indian Organizations

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Abstract

The rapid adoption of Artificial Intelligence (AI) across various organizational functions has led to transformation of value creation through Human Resource Management (HRM) practices for both employees and customers. Various AI-powered recruitment systems, performance management applications, workforce analytics, employee learning and development solutions and employee experience platforms are increasingly being implemented by organizations. However, there are very limited studies on how these technologies affect customer experience, particularly in developing nations. The current research aims to explore the impact of HRM practices enabled by AI on the customer experience from the point of view of the mediating role of employee engagement from the standpoint of the Service-Profit Chain framework and the Social Exchange Theory. The survey was conducted among organizations functioning in India and working in the domains of information technology, banking, telecommunications, e-commerce, health care and manufacturing industries. Data were collected via a structured questionnaire filled by 512 respondents with the help of validated measurement instruments. Hypothesized relations were analyzed with Structural Equation Modeling (SEM). It was established that AI-enabled HR practices have a positive impact on employee engagement and customer experience. Besides, employee engagement plays a partial mediating role in the relationship between AI-based HR practices and customer experience.

Keywords: Artificial Intelligence, Human Resource Management, AI-enabled HR Practices, Employee Engagement, Customer Experience, Structural Equation Modeling, Indian Organizations

1. Introduction

Involvement of artificial intelligence (AI) in organizational operations across the world has seen a great rise in recent times. AI is no more restricted to processes and data handling but is used as a strategic tool that influences decision-making, workforce management, customer management, and innovation in businesses. There is an awareness growing among the organizations about how AI, beyond its technological form, can revolutionize the experience of workforce and customers in their organization.

There has been a great encouragement towards adoption of AI in India in the last decade because of the Digital India program and National Strategy for Artificial Intelligence. As per various industry reports, Indian organizations are one of the fastest in adopting AI enabled technologies in Asia, particularly in HRM, CRM, and business analytics segments. That is why there is a growing use of AI enabled recruitment, chatbots, predictive analytics, intelligent learning platforms, workforce planning and employee sentiment analysis solutions.

Traditionally, human resource management has been treated as an internal process of an organisation which consists of attracting, developing, motivating and retaining employees. Nonetheless, new approaches to strategic human resource management point to the fact that activities conducted within the process of human resource management affect not only employees but also organisational performance and customers' satisfaction. Normally, the quality of experience of the employees affects the quality of experience of the customers. Empowered, motivated and satisfied employees are more likely to show such behaviour as to have a positive impact on the customer experience.

Additionally, at present, such relationship is affected by the growing amount of human resource management practices based on the use of artificial intelligence. The implementation of AI technology helps to personalize the learning process, automate administrative processes, provide timely feedback, improve decision-making and workforce agility. This leads to increasing the level of engagement of employees. Engaged employees are usually more motivated and proactive in terms of customer service.

But then the following questions arise: do the AI enabled HR practices have any impact on improving the customer experience, and if yes, how?

The fact is that when organizations start implementing the technologies related to AI, they do this in order to gain benefits concerning efficiency and reducing costs. But now, the competitive advantage of organizations does not depend on efficiency but on the customer experience. "If AI-enabled HR practices can help organizations achieve positive customer outcomes through greater employee engagement, they can deliver significantly higher value on their digital transformation efforts."

India is an interesting country for researching the topic of the relationship between the customer experience and AI enabled HR practices for some reasons. The first reason is that India is a country with a diversified workforce which includes workers of different technological level and with different customer demands of organizations. At the same time, India is a competitive country where the customer experience is very important.

This paper tries to explore the direct as well as indirect impact of HR practices based on artificial intelligence on the customer experience of employees of Indian companies. This study suggests that employee engagement can be used as a very important mediating variable between HR practices based on AI and customer experience outcomes using service-profit chain theory and social exchange theory.

2. Theoretical Foundation

2.1 Service-Profit Chain Theory

Developed by Heskett et al. (1997), the Service-Profit Chain model illustrates the connection between employee satisfaction and involvement and the company's profitability and customer loyalty.

An Intelligent HR Systems concept is discussed with respect to internal service quality in the field of AI-based HR practices. The idea of using AI systems for employee development, automation of mundane processes, improved communications, and improved support for employees should result in increased engagement of employees. Engaged employees create a better customer experience for the client.

Therefore, the Service-Profit Chain model can be used as the theoretical basis for the effects of AI-based HR practices on customer experience through the channel of employee engagement.

2.2 Social Exchange Theory

According to the Social Exchange Theory (Blau, 1964), people should reward positive behaviors exhibited by organizations. As long as employees understand the significance of the investment that an organization makes, they are supposed to give back positively.

The use of AI in Human Resources can be viewed as the resources of an organization that assist employees in developing themselves and advancing in their careers. This means that employees will become more engaged.

Thus, employee engagement will result in better customer interactions and experiences. Thus, Social Exchange Theory can provide another explanation for the mediating role of employee engagement in the relationship between AI-HR and customer experience.

3. Literature Review

3.1 AI-Enabled HR Practices

AI-driven HR practices are the application of artificial intelligence technology to human resource processes including recruiting, talent management, workforce planning, performance assessment, learning and development, employee engagement and retention management (Vrontis et al., 2022).

Modern AI-driven HR systems make use of machine learning, natural language processing, predictive analytics, recommendation engines and conversational AI for supporting decision-making for managers. The following are some ways companies are applying AI in HR:

- Resume screening and ranking of candidates

- Turnover prediction
- Suggested trainings
- Performance feedback
- Workforce scheduling improvement
- Employee sentiment analysis
- Chatbots and virtual assistants in HR

Studies have shown that decisions made using AI-driven HR practices yield greater accuracy, efficiency, employee productivity and organizational agility (Budhwar et al., 2022). But there is little research regarding the impact of such practices on customer outcomes.

3.2 Employee Engagement

Employee engagement is considered to be “energized, positive, and fulfilling cognitive, emotional, and behavioral state of high levels of energy, dedication and absorption” (Schaufeli et al., 2002). Engaged employees tend to have higher energy, passion, dedication, and involvement in performing work tasks.

It has been proven by many studies that the engagement of employees leads to better organizational productivity, innovation, customers’ satisfaction, and employee retention. The digital workplace technologies help in ensuring the pre-requisites for employee engagement.

Some recent researches have found out that AI technologies could lead to higher levels of employee engagement owing to the following factors:

- Absence of redundancies
- Higher autonomy in work
- Personalized professional development
- Provision of constant feedback
- Work flexibility

Meaningful and engaging experiences for the employees can be ensured through the use of AI technology.

3.3 Customer Experience

Customer experience consists of the psychological, emotional, sensory, and behavioral responses of customers to their interactions with the organization (Lemon & Verhoef, 2016). Customer experience is critical and cannot be overstressed in the contemporary business environment. The fact is that many organizations now understand the extent to which front-line employees have an effect on customer experience creation. When workers are motivated

and engaged, they tend to create superior customer experience. There is a positive relationship between employee engagement and customer satisfaction, loyalty, service quality, and retention (Kumar et al., 2013). But much is not yet known about the effect of AI-empowered HR on customer experience through employee-related channels.

4. Research Gap and Justification

The previous studies have covered integration of AI in HRM, employee engagement and customer experience individually but some significant research gaps still remain. First, the existing research on AI in the context of HRM has primarily focused on efficiency of operations, recruitment processes and workforce analysis without considering any effects on the customers. Second, there is lack of research on the linkage between the use of AI-based HRM practices and customer experience in the context of developing nations such as India. Third, even though the issue of employee engagement has been extensively researched as an organizational outcome, yet none of the studies have considered its role as a mediator in the relationship between AI based HRM practices and customer experience. Fourth, the majority of the AI and HRM literature has been carried out in the developed nations making them irrelevant to the organizations in India. The significance of filling these research gaps stems from the fact that the organizations are spending money in technology without realizing its effects on customer related outcomes.

5. Research Objectives

Study Objectives are:

1. To study the effect of AI-enabled HR practices on employee engagement in Indian organizations
2. To investigate the role of AI-enabled HR practices on customer experience.
3. The effect of employee engagement on customer experience.
4. To examine the mediating role of employee engagement between AI-enabled HR practices and customer experience.

6. Hypotheses Development

H1: AI-enabled HR practices have a positive impact on employee engagement. AI enabled HR systems help organizations provide better support, personalization and development opportunities to its employees and this leads to better engagement.

H2: AI based HR practices have a positive influence on customer experience. HR processes enabled by AI help improve workforce capability and service readiness to deliver exceptional customer experiences.

H3: Employee engagement is positively associated with customer experience. The more engaged the employee is, the more committed they are, the more responsive they are, the better-quality service they provide and the better service the customer gets.

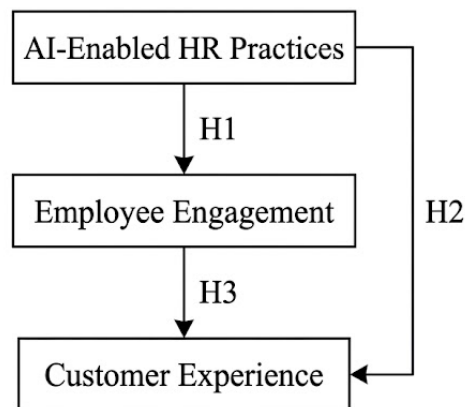
H4: Employee engagement mediates the association between AI-enabled HR practices and customer experience. AI-driven HR practices improve employee engagement that improves customer experience.

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7. Conceptual Framework

The model proposed here is based on Theory of the Service-Profit Chain and Theory of Social Exchange. The framework suggests that AI-enabled HR practices are strategic organizational resources that enhance the employee workplace experience. These positive experiences lead to higher employee engagement which in turn drives customer experience outcomes

Figure 1. Proposed Research Framework



Indirect Effect: AI-Enabled HR Practices → Employee Engagement → Customer Experience (H4)

The model proposes both direct and indirect pathways through which AI-enabled HR practices influence customer experience.

8. Research Methodology

8.1 Research Design

Whereas for the test of the hypothesized relationships among the variables to be studied, which are AI Enabled HRM practices, Employee Engagement and Customer Experience, the research methodology used is the quantitative one. The survey method was chosen because it makes collection of large data from employees operating in different industries possible through the use of SEM.

In the study, consideration was given to employees from Indian companies that were practicing AI enabled HRM practices in at least one of the HR functions including recruitment, training, performance management, workforce analytics, employee communication and talent management.

8.2 Population and Sampling

The target population consisted of full-time employees working in medium and large organizations operating in India.

Respondents were drawn from the following sectors:

- Information Technology
- Banking and Financial Services
- Telecommunications
- E-commerce
- Healthcare
- Manufacturing
- Consulting Services

A purposive sampling approach was employed to ensure that participants had exposure to AI-enabled HR systems.

To ensure adequate statistical power for SEM analysis, a minimum sample size of 400 respondents was considered appropriate. After data screening and removal of incomplete responses, a final sample of 512 usable questionnaires was obtained.

8.3 Data Collection Procedure

Data collection was conducted over a four-month period.

The questionnaire was distributed through:

- Corporate HR departments
- Professional networking platforms
- Industry associations
- Employee email groups
- LinkedIn professional communities

Participants were informed about:

- Voluntary participation
- Confidentiality of responses
- Academic purpose of the study
- Anonymity protection

A cover letter accompanied each questionnaire explaining the study objectives.

A total of 612 responses were received.

After eliminating:

- Missing responses
- Straight-lined questionnaires
- Incomplete submissions

512 responses were retained for final analysis.

Response Rate

Particulars	Frequency
Questionnaires Distributed	750
Responses Received	612
Usable Responses	512
Effective Response Rate	68.27%

8.4 Measurement Instruments

All constructs were measured using previously validated scales adapted from contemporary literature.

A five-point Likert scale was employed:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

AI-Enabled HR Practices (AIHR)

Adapted from recent AI-HRM studies.

Sample items:

- AI tools improve HR decision-making quality.
- AI-based systems provide personalized learning opportunities.
- AI technologies streamline HR processes.
- AI-enabled HR systems enhance workforce productivity.
- AI tools support employee development.

Total Items: 6

Employee Engagement (EE)

Adapted from the Utrecht Work Engagement Scale (UWES).

Sample items:

- I am enthusiastic about my work.
- I feel energized while working.
- I am fully immersed in my job.
- I am dedicated to organizational goals.
- I feel motivated to contribute beyond expectations.

Total Items: 5

Customer Experience (CE)

Adapted from customer-centric service and organizational performance studies.

Sample items:

- Our customers receive consistent service quality.
- Customers report positive experiences.
- Employees effectively address customer concerns.
- Customers perceive high service responsiveness.
- Customer satisfaction levels are high.

Total Items: 5

8.5 Demographic Profile of Respondents

Table 1 Demographic Characteristics of Respondents (N = 512)

Variable	Category	Frequency	Percentage
Gender	Male	298	58.2
	Female	214	41.8
Age	21–30 Years	172	33.6

	31–40 Years	211	41.2
	41–50 Years	93	18.2
	Above 50	36	7.0
Education	Graduate	122	23.8
	Postgraduate	317	61.9
	Doctorate	73	14.3
Experience	Less than 5 Years	137	26.8
	5–10 Years	216	42.2
	11–15 Years	101	19.7
	More than 15 Years	58	11.3
Sector	IT	148	28.9
	BFSI	106	20.7
	Manufacturing	91	17.8
	Telecom	57	11.1
	Healthcare	48	9.4
	E-commerce	62	12.1

The sample demonstrates substantial diversity across age groups, industries, and professional experience levels, thereby enhancing the generalizability of findings within the Indian corporate context.

8.6 Assessment of Common Method Bias

Since data were collected from a single source, common method bias (CMB) was assessed using Harman's Single-Factor Test.

Table 2 Harman's Single-Factor Test

Measure	Value
Total Variance Explained by First Factor	32.47%
Threshold	< 50%
Result	No Significant CMB

The first factor accounted for only 32.47% of total variance, indicating that common method bias was not a serious concern.

9. Descriptive Statistics

Descriptive statistics provide preliminary insights into respondent perceptions regarding the study variables.

Table 3 Descriptive Statistics

Construct	Mean	SD	Minimum	Maximum
AI-Enabled HR Practices	3.87	0.71	1.42	5.00
Employee Engagement	3.94	0.68	1.60	5.00
Customer Experience	4.01	0.65	1.75	5.00

The results indicate relatively favorable perceptions of AI-enabled HR systems and high levels of employee engagement and customer experience across participating organizations.

10. Measurement Model Assessment

Before testing structural relationships, the measurement model was evaluated through Confirmatory Factor Analysis (CFA).

The evaluation focused on:

- Reliability
- Convergent Validity
- Discriminant Validity

The analysis was conducted using AMOS 29.

10.1 Reliability Analysis

Cronbach's Alpha and Composite Reliability (CR) values were examined.

Table 4 Reliability Assessment

Construct	Cronbach's Alpha	Composite Reliability
AI-Enabled HR Practices	0.912	0.918
Employee Engagement	0.901	0.907
Customer Experience	0.889	0.896

Recommended threshold values:

- Cronbach Alpha > 0.70
- CR > 0.70

All constructs exceeded the recommended thresholds, indicating strong internal consistency.

10.2 Convergent Validity

Convergent validity was assessed through factor loadings and Average Variance Extracted (AVE).

Table 5 Convergent Validity Assessment

Construct	Factor Loading Range	AVE
AI-Enabled HR Practices	0.741 – 0.883	0.651
Employee Engagement	0.768 – 0.891	0.668
Customer Experience	0.752 – 0.876	0.639

Recommended thresholds:

- Factor Loading > 0.70
- AVE > 0.50

All constructs demonstrated satisfactory convergent validity.

10.3 Discriminant Validity

The Fornell-Larcker criterion was employed.

Table 6 Discriminant Validity Matrix

Construct	AIHR	EE	CE
AIHR	0.807		
EE	0.612	0.817	
CE	0.548	0.684	0.799

Diagonal values represent the square root of AVE.

Since all diagonal values exceed corresponding inter-construct correlations, discriminant validity is established.

10.4 Confirmatory Factor Analysis Results

The three-factor measurement model demonstrated satisfactory fit.

Table 7 CFA Model Fit Indices

Fit Index	Recommended Value	Obtained Value
χ^2/df	< 3.00	2.34
GFI	> 0.90	0.932
AGFI	> 0.90	0.914
CFI	> 0.90	0.957
TLI	> 0.90	0.951
NFI	> 0.90	0.939
RMSEA	< 0.08	0.051
SRMR	< 0.08	0.044

The model fit statistics indicate that the measurement model adequately represents the observed data and provides a sound basis for testing the structural model.

11. Structural Model Assessment and Hypothesis Testing

Following the confirmation of reliability and validity, Structural Equation Modeling (SEM) was employed to examine the hypothesized relationships among AI-enabled HR practices, employee engagement, and customer experience.

SEM is particularly suitable for simultaneously testing direct and indirect effects while accounting for measurement error, making it appropriate for mediation-based studies.

11.1 Structural Model Fit

The structural model demonstrated acceptable goodness-of-fit, indicating that the hypothesized model adequately represents the empirical data.

Table 8 Structural Model Fit Indices

Fit Index	Recommended Value	Obtained Value
χ^2/df	< 3.00	2.47
GFI	> 0.90	0.926
AGFI	> 0.90	0.911
CFI	> 0.90	0.952
TLI	> 0.90	0.948

IFI	> 0.90	0.953
RMSEA	< 0.08	0.054
SRMR	< 0.08	0.047

The model fit indices satisfy established SEM guidelines, confirming the adequacy of the proposed framework.

11.2 Hypothesis Testing

The standardized path coefficients, critical ratios, and significance levels are presented below.

Table 9 Direct Effects and Hypothesis Testing

Hypothesis	Relationship	β	t-value	p-value	Result
H1	AIHR \rightarrow EE	0.612	11.834	<0.001	Supported
H2	AIHR \rightarrow CE	0.291	5.187	<0.001	Supported
H3	EE \rightarrow CE	0.523	9.641	<0.001	Supported

The findings indicate that AI-enabled HR practices significantly enhance employee engagement and customer experience. Additionally, employee engagement exerts a strong positive effect on customer experience.

11.3 Mediation Analysis

To assess the mediating role of employee engagement, a bootstrapping procedure with 5,000 resamples was performed.

Bootstrapping is considered one of the most robust techniques for evaluating indirect effects because it does not rely on assumptions of normality.

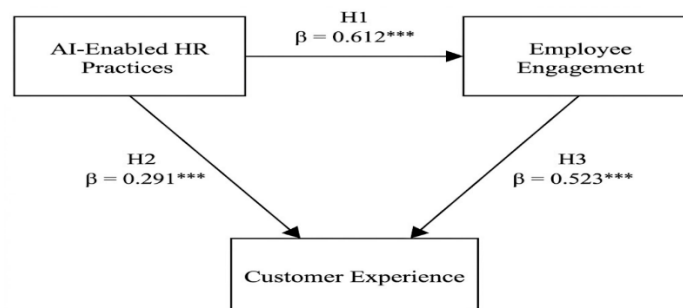
Table 10 Mediation Analysis Results

Path	Direct Effect	Indirect Effect	Total Effect	95% Lower CI	95% Upper CI	Result
AIHR \rightarrow EE \rightarrow CE	0.291	0.320	0.611	0.241	0.397	Significant

The confidence interval does not include zero, indicating a significant mediation effect.

Since both the direct effect (AIHR \rightarrow CE) and indirect effect (AIHR \rightarrow EE \rightarrow CE) remain significant, employee engagement serves as a partial mediator.

Therefore, H4 is supported.



Summary of Effects:
 Indirect Effect (HR Practices \rightarrow Engagement \rightarrow Experience) (H4): 0.320**
 Total Effect: 0.611***
 *** p < 0.001

Figure 2. Structural Equation Model Results

12. Findings

The study generated several noteworthy findings regarding the relationship between AI-enabled HR practices and customer experience within Indian organizations.

AI-enabled HR practices significantly enhance employee engagement.

The strongest relationship observed in the model was between AI-enabled HR practices and employee engagement ($\beta = 0.612$). This finding suggests that employees perceive AI-based HR systems as valuable organizational resources that improve work experiences, learning opportunities, and workplace support.

AI-enabled HR practices directly improve customer experience.

The significant direct effect between AI-enabled HR practices and customer experience ($\beta = 0.291$) indicates that AI investments contribute to customer outcomes beyond internal operational efficiencies.

Employee engagement significantly enhances customer experience.

The positive relationship between employee engagement and customer experience ($\beta = 0.523$) supports the argument that engaged employees are more committed to delivering superior customer service.

Employee engagement partially mediates the relationship.

The mediation analysis reveals that a substantial portion of the influence of AI-enabled HR practices on customer experience operates through employee engagement.

This finding highlights the importance of human-centered AI implementation strategies.

13. Discussion

Our findings offer strong evidence that AI-enabled HR practices are strategic organizational capabilities affecting not only workforce outcomes but also customer experiences. The positive relationship between AI-enabled HR practices and employee engagement is consistent with recent studies that have found that AI technologies can enhance employees' productivity, learning and workplace satisfaction. AI tools help employees gain more autonomy and support by lessening administrative tasks and making it easier to personalize development opportunities. The results also provide some support for Social Exchange Theory. When employees find a way to use AI technologies, they respond with higher engagement and commitment. Employees appear to view well-implemented AI systems as the organization's investments in their success, not a threat. There is a positive correlation between employee engagement and customer experience, which is consistent with the Service-Profit Chain framework. Engaged employees are more enthusiastic, responsive and customer-oriented, which ultimately results in a better customer experience. Perhaps the most important contribution of this study is to identify employee engagement as a mediating mechanism. This finding means that investments in technology alone will not be enough to deliver customer-centric outcomes. The development of value in AI technologies is highly dependent on employee experience and use. This is very important in the Indian context where organisations are quick to adopt AI and at the same time managing divergent expectations of the workforce.

14. Conclusion

Artificial Intelligence (AI) is transforming the role of Human Resource Management from administrative support to a strategic enabler of organizational performance. But the real power of AI goes much deeper than operational efficiencies and workforce analytics. The study found that use of AI in HR practices has a direct and indirect positive impact on customer experience in Indian organisations through employee engagement. Employees are the real connection between tech investments and customer outcomes. The results suggest that the most valuable thing about AI for organizations is when employees see those technologies as supportive, empowering and developmental. One of the keyways AI-enabled HR practices influence customer experiences is through employee engagement. "Indian organizations

will need to combine AI with employee-centric HR strategies with their journeys in digital transformation to stay competitive and provide excellent customer experience”.

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