JOURNAL: PRIMAX INTERNATIONAL JOURNAL OF COMMERCE AND MANAGEMENT RESEARCH
ISSN: Print ISSN: 2321-3604 Online ISSN: 2321-3612, Impact Factor: 7.184
(A DOUBLE-BLIND PEER REVIEWED, OPEN ACCESS REFEREED QUARTERLY JOURNAL)
DOI: https://doi.org/10.34293/pijcmr.v14i1.2026.009
PRIMAX IJCMR VOLUME NO.14, ISSUE NO-1, APRIL -JUNE, 2026
Research Article

INVESTIGATION OF EMERGING ARTIFICIAL INTELLIGENCE IN EMPLOYEE RETENTION (REFERENCE TO IT COMPANIES IN CHENNAI)

Dr. C.S. Srividya Prathiba*
Controller of Examinations, Associate Professor and Head Research Supervisor
Department of Commerce M.O.P Vaishnav College for Women (Autonomous)
Chennai, Tamil Nadu
Priya Varathan*
Ph.D Research Scholar- Department of Commerce
M.O.P Vaishnav College for Women (Autonomous) Chennai, Tamil Nadu

***Corresponding Authors | Received: 25/04/2026 | Accepted: 25/05/2026 | Published: 01/06/2026**

Abstract

The study aims to determine the role of artificial intelligence in performance management by identifying the factors in managing the employee retention of an organization. The companies have employed AI integrated performance evaluation metrics as one of the retention strategies to increase the employee satisfaction. Therefore, it is important to understand the extent to which performance management systems are enhanced by artificial intelligence tools that drives employee's engagement Methodology/Approach: The sample population are the start-up companies who had leveraged AI in their business of IT sector in Chennai region. Quantitative research approach is employed and Convenience sampling, a non-probability technique is used to perform the study. Findings & Practical Implications: The results of the test in the study indicates that the factors of artificial intelligence powered performance management influence the retention of employees. There are implications in this research for employees and for companies to focus on AI integration. This is to retain the employees not only for the benefit of the Organization but also for better experience & satisfaction of workforce.
Keywords - Artificial intelligence, Rewards management, Employee retention, Machine language, Performance management.

Introduction

Artificial Intelligence (AI) is composed to become a keystone in the transformation of Human Resource Management (HRM) globally. It is embedded into the core strategies to optimize operational process, create personalized pathway for employee learning and provide data driven insights. AI uses Machine Language (ML) to simulate human intelligence, make predictions and draw conclusions with the available data input.

Performance management is said to be a continuous vital process of HRM which is beyond measuring the performance. The rational is to measure an individual's performance in an objective and versatile manner to align with the efficiency or growth of an organization. The process is not only about setting goals, tracking the progress of an employee, providing feedback for the improvement, but also to work on improving the individual's capacity for the welfare of the employee and the Organization. Data driven personalized development

plans and feedback mechanism track the employee progress and helps in identifying the development opportunities. (S. Garg et al., 2022). The process involves in evaluating the individual's past performance, identifying the barriers to performance, predicting the future contributions and finally rewarding for the performance. The barriers are identified for the purpose to focus on the training & development for the employee. To explore the cause and effect of employee retention, two factors such as Training & development and Rewards management are identified for the study.

Employee retention is considered as the vital aspect as it drives the productivity and efficiency of the organization. (Darko, 2024). "Employee retention is defined as the practices adopted by companies to sustain an efficient workforce while satisfying operational needs." (Yousuf & Siddqui, 2018). AI has already integrated into various HR strategies that ultimately leads to engaged employees with the increase retention rate. It is important to note for employee retention, that AI powered tools support the employee towards their development and positive work environment (Durairaj & Vetrivel, 2024). Algorithms and predictive analysis help HR professionals with valuable insights for them to intervene by implementing strategies at the early stage to retain the talent employees. (Mavis Appoh et al., 2024). With data driven insights, predictive analysis is carried out to identify the attrition risk and prediction turnover. AI helps in proactively addressing these issues. (N.B. Yahia et al., 2021).

Background of the Research

The need to study the AI powered performance management is to conduct a comprehensive analysis of the phenomenon, employee retention. The motivation of this research is to determine the factors of performance management system that drives employee retention. The rising interest in understanding the AI influencing employee retention underscores the importance of exploring the machine learning techniques that drives performance management. While employee retention is critical, the research paper represents an explanation on factors of AI powered performance management given the significance of artificial intelligence.

Literature Review and Conceptual Framework

Sura AI-Ayed (2025) aims to investigate the impact of artificial intelligence on employee retention, having employee loyalty as a mediation. With 324 samples, structural and measurement model were employed with SmartPLS to determine the impact on dependent variables. Habib Ur Rehman et al., (2025) the researcher aimed to explore the usage of AI in

various roles of employee retention such as predictive analysis, workforce planning, performance management, employee engagement etc. The paper also states the Ethical considerations and regulatory compliance associated with AI. Durairaj., & Vetrivel (2024) in their article observed that AI tools play a vital role in improving the performance metrics efficiency as these tools gather real-time data for performance evaluation. To identify the relationship between variables, tools such correlation, regression and chi-square were employed in the research. Case study analysis was followed in the research paper, Sunil Basnet (2024) by focusing on the usage of predictive analysis with the help of AI and Machine language (ML). The paper also emphasizes on the impact of these technologies on employee retention along with employee satisfaction. Khadija Mohasin et al., (2025) in their research paper developed a SEM model to understand the impact of AI technologies in employee performance & job satisfaction through performance management. Moderation effect was analyzed with variables such as Employee attitude and management support. The results are interpreted and concluded as the impact exist between the variables.The research develops a conceptual framework that explains how the drivers of AI powered performance management, such as Reward management and Training & development shape the employee retention of a company. Reward management is considered as a key role in sourcing, retaining and motivating the employees. (Zhou Zhang., & Montoro Sanchez, 2011). Personalized learning path with AI tools helps the employee to gain confidence it and helps in acquiring skills. The conceptual framework representing the relationship between variables are depicted in figure 1. The figure indicates the primary variables that are considered for the study. AI powered Performance management is an independent variable influencing the Employee retention, the dependent variable.

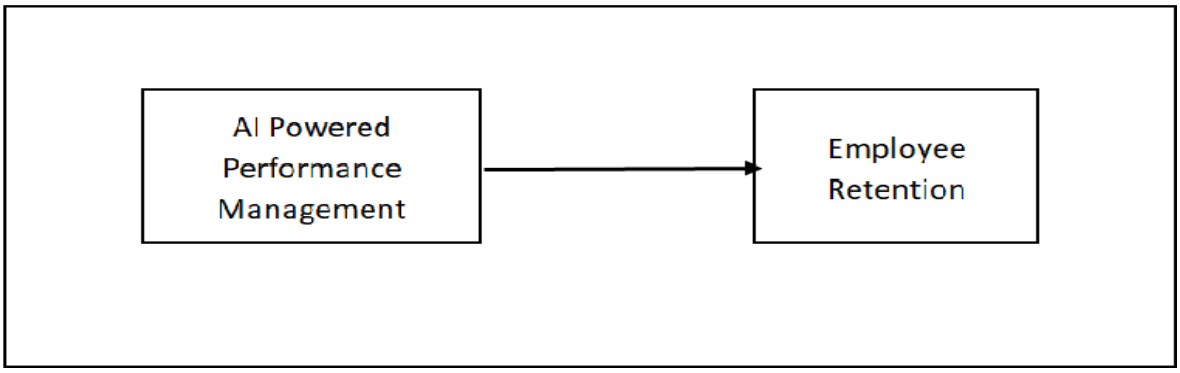

Figure 1: Conceptual Framework of the Research.

Research Gap

There were considerable studies on Artificial intelligence related to recruitment process, training & development and compensation process. While numerous factors on AI related to human resource functions were studied in the previous literature's, there were limited research on AI powered performance management contributing towards the employee retention. Several aspects of AI such as Machine Learning (ML) and algorithms, where more research is needed to understand how it improves the employee retention. Further, it is important to note that the data set from start-up companies of IT sector is remarkably used.

Research Objectives

1.To identify the factors that is considered in performance management.

2. To study the effect of AI powered performance management on employee retention.

3. To develop and validate the scale for the above constructs.

4. To test and validate the model.

Hypothesis of the Study

Hypothesis 1: AI powered performance management is positively related with Employee retention.

Hypothesis 2: The model fits significantly well.

Research Methodology

The methodology employed in the research aims to interpret the current scenario and minimize the errors associated with the minimal sample size. **Research approach:** The nature of the research is Analytical approach, uses both quantitative and qualitative measure for reliable and validated results. Semi-structured interviews and focus groups are employed to study how AI is integrated with performance management to impact employee retention. **Data collection:** The research is based out of both primary and secondary data. The primary data were collected from IT employees and secondary data from various journals, books and websites. **Research instrument:** Quantitative approach is carried out with Primary data using structured questionnaire and five-point Likert scale (Strongly disagree to strongly agree) was adopted. The constructs and its indicators were adopted from the analysis of previous published literature's. (Maria Sachane et al., 2018., Vartika Dadich, 2022., & Richa Verma, 2021). The questionnaire was distributed to the employees after obtaining the permission and promising confidentiality. **Sampling details:** Sample frame were the employees of start-up companies in IT sector. Convenience sampling technique was used for the selection of respondents. Further the sample size is 120.

Limitations of the Study

The data does not fully represent the companies of the respective region, as the sample size is restricted to 120 respondents only, causing selection bias. The study area is limited to start-up companies of Chennai, restricting the applicability of the results to other geographical regions.

Analysis & Interpretation

STATISTICAL TOOLS: Statistical package for social sciences (SPSS) and AMOS was used to perform the research. Validity and reliability test including Cronbach's Alpha, Exploratory Factor Analysis (EFA) and Confirmatory factor Analysis (CFA) were performed. Cronbach's Alpha, a widely used statistical test was done for 50 samples extracting from SPSS to measure the consistency of the questionnaire. EFA was done for identifying the factors and scale development. Kaiser-Meyer-Olkin & was carried before the Principal Component Analysis to check the suitability of the data. CFA was done to validate the scale and to check the factor model. Second order Structural Equation Model (SEM), a measurement model was used to test the model fit and hypothesis.

Findings & Results

Table 1: Reliability Test-Pilot Study

Pilot study was conducted with 50 samples to understand the requirement of revision. The alpha values from the Pilot study are stated below in Table 1 illustrating the results

Cronbach's Alpha	Standardized Items	No of Items
0.933	0.927	20

The Cronbach's alpha of 0.927 is considered as excellent. It represents the scale measures the construct sufficiently. The final questionnaire was distributed for the survey, post the pilot study. Kaiser Meyer Olkin and Bartlett's test of Sphericity (KMO) of factor analysis provides information on the sampling adequacy among the variables. The values are based on the correlation among the variables and does not depend on the sample size.

Table 2: Kaiser-Meyer-Olkin and Bartlett's Test

Measure of Sampling Adequacy		0.812
Bartlett's Test of Sphericity	Approx. Chi-square	1197.467
	Df	190
	Significance	0.000

The results from Sample adequacy test are depicted in the above table. The sample adequacy

value is 0.812 and Bartlett's test of sphericity approx. Chi-square value is 1197.467 respectively. The values are at 1% level of significance. It is concluded that the value of 0.812 is considered excellent and strongly suitable for the analysis of factors of the study. Further, the sample size is concluded as adequate for the research. Principal Component Analysis with Varimax rotation was conducted to access the underlying structures for 20 items of the study and to measure the variable loadings. They are extracted into two main factors such as Training & development and Rewards Management under AI powered performance management. The third factor is the dependent variable, Employee retention. The underlying factors under constructs were represented with respective variables in Table 3.

Table 3: Factor Analysis - Variables and Factor Loading

Factor number	Variable	Factor Loading	Name of the Factor
TD2	Employee trained with AI usage	.722	Training & Development
TD3	Learner rated unbiased	.757	
TD4	Personalized learning experience with AI	.876	
TD5	AI identifies gap in learning program	.906	
TD6	AI based virtual training increases performance	.814	
TD7	Training need of the personnel with AI	.903	
TD8	Track training assigned	.872	
R1	Better job opportunity with AI	.796	Rewards Management
R2	Recent rewards or recognition	.742	
R3	Recognise self-learning	.876	
R4	Automated appraisal process	.841	
R5	Recognise star performer	.839	
ER2	Employee engagement with AI	.816	Employee Retention
ER3	Adaption of new technology	.765	
ER4	Job creation with AI	.924	
ER5	Identification of career path	.879	
ER6	Employees for successor leader	.846	
ER7	Error free work with AI enabled system	.739	

The results represent the above factors after running the factor analysis. With rotated factor matrix, the items were mentioned against each factor with the respective loading and they were also named. For better clarity, the items with loading less than 0.650 were ignored. The Eigen values greater than 1 are considered for all three factors. The constructs named as Training & development (Factor 1) and Rewards management (Factor 3) of AI powered

performance management. The highest loading under training & development was "AI identifies the gap in learning program, reassess and redesigns it" with loading of 0.906. Under rewards management, the highest loading was 0.876 for "Supervisor recognizes, motivates & rewards the Self-development or Learning" and the loading of 0.924 for Employee retention was "New job was created using AI".

CFA was carried out in AMOS done to validate the scale and to check the factor model

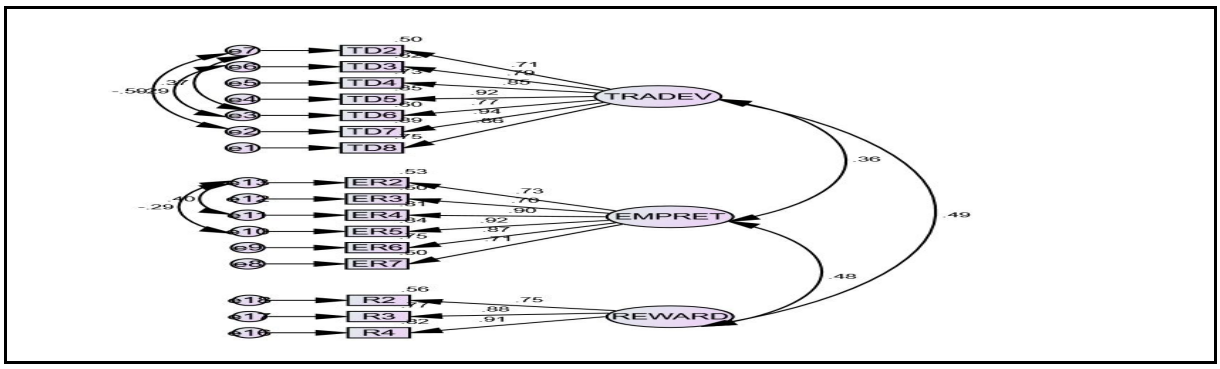

Figure 2: Confirmatory Factor Analysis

The result of CFA confirms a three-factor model. From the results & the headed arrow from the model, It is concluded that Training & development and Rewards Management has a significant effect on Employee retention. SEM was conducted to examine the effect of AI-powered performance management on Employee retention among the employees of IT companies. This method of assessment is incorporated in observed and latent variables. Figure3 demonstrates the SEM model.

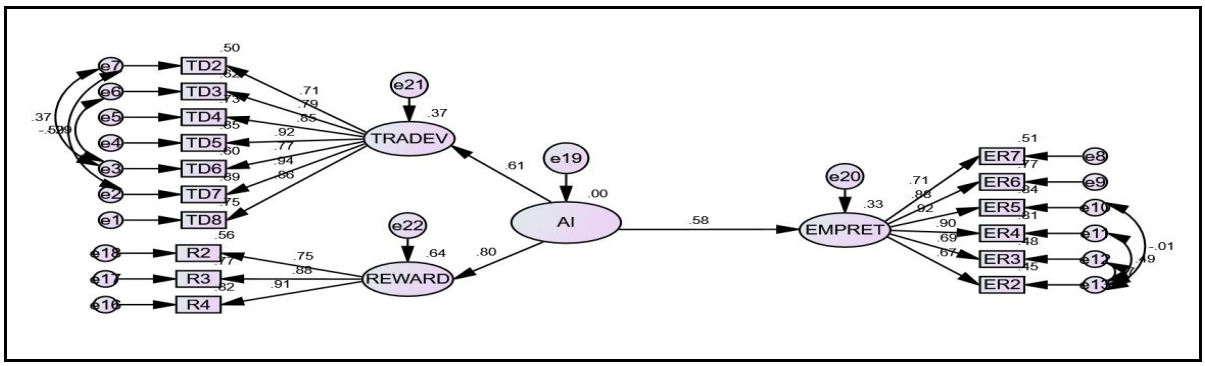

Figure 3: Conceptual Model

The coefficient of AI powered performance management is 0.58 which resulted from the above model. It signifies that every unit increase in AI powered performance management, the employee can be retained in IT companies.

Table 4: AI powered performance management – Model Fit

Measure	Observed value	Result
Chi-square/df	2.389	Good
P value	0.00	Ssignificant
Goodness of Fit Statistic (GFI)	0.801	Acceptable
Comparative Fit Index (CFI)	.968	Excellent
Root Mean Square Residual (RMR)	0.077	Acceptable
Root Mean Square Error of Approximation (RMSEA)	0.06	Good

Table 4 shows the summary of model fit and further indicates a strongly alignment between the samples and the model. The estimated loading's of Chi-square value/df in Structural equation model of 2.389 indicates a goodness of fit and statistically significant. Further GFI of 0.801 states an acceptable model fit as compared to threshold values. CFI value of 0.968 represents an excellent model fit. Root mean square residual (RMR) is 0.077, which is fair. The value of Root Mean Square Error of Approximation (RMSEA) of 0.06 specifies a good fit.

Testing of Hypothesis

Hypothesis 1: AI powered performance management is positively related with employee retention. The results of Confirmatory factor analysis revealed that AI powered performance management is positively related with employee retention.

Hypothesis 2: The model fits significantly well. The five fit indices such as CFI, GFI, CMIN, RMR & RMSEA of AI powered performance management illustrated in Table 4 were observed and SEM model confirms and suggest a good model fit.

IMPLICATIONS HRM practices are transformed and it operates efficiently with the technologies by integrating AI and Machine language (ML) which offers a theoretical implication. The information from the research could be valuable to employers and policy makers to develop strategies to focus on integrating the AI tools in performance management system to improve the rate of employee retention. Addition to learning and development platforms, Organization should work on personalized or tailor-made employee based learning experiences, considering the employee performance and preference to enhance their skill and development. In addition to productivity, Employers can deploy AI as the one that sets a standard in quality of work which enhances the employee experience, in addition to productivity. Further, the concern should focus and employ predictive analysis to proactively predict the risk associated with the attrition and to work on talent management.

Conclusion

The study emphasized the importance of AI powered performance management and the factors that the managers should focus in retaining the employees. AI integrated performance management represents a significant shift of companies in managing the employee retention and overall performance management metrics. Employees need personalized training to work to keep them motivated and work on their performance. They also need to adapt to the usage of tools effectively. Employers should also work on reward system, other than remuneration benefits. It encourages staff motivation and helps in talent management. Identifying the respective tools such as AI-driven development programs & AI powered career path tools contributes towards the career development and serves as a growth opportunity for employees. (Avishek Nath et al., 2025). Despite of the fact that AI having a greater potential, it is important to consider the ethical ramifications while choosing the AI system.

Reference

- Mavis Appoh., Olufunke Anne Alabi., Bisi Ogunwale., Sibongile Gobile., & Naomi Oboyi. (2025). Leveraging AI for employee development and retention: A new paradigm in human resource development. Journal of frontiers in multidisciplinary research, 6(1), 227-234. https://doi.org/10.54660/.IJFMR.2025.6.1.227-234
- Haya Alquahtani., Hana Almagrabi., & Amal Alharbi. (2025). Dataset for predictive modelling and analysis for employee attrition and retention. Data in brief, 63, https://doi.org/10.1016/j.dib.2025.112242
- Khandakar Kamrul Hasan., Md. Abu Hasnat., & Hissan Khandakar. (2025). Boardroom communication networks and AI driven HRM in Cyber-Fin Tech: A theory building framework for employee retention. Telematics and informatics report, 21, https://doi.org/10.1016/j.teler.2025.100280
- Maria Sachane., Adele Bezuidenhout., & Chris Botha. (2018). Factors that influence employee perceptions about performance management at statistics South Africa. SA Journal of human resource management, 16(0), https://doi.org/10.4102/sajhrm.v16i0.986
- Sura AI-Ayed. (2025). Role of artificial intelligence towards employee retention via mediation of employee loyalty: A company governance study. Journal of governance and regulation, 14(2), 363-370. https://doi.org/10.22495/jgrv14i2siart15
- Habib Ur Rehman., Akram Khan Shahani., & Hatif Waheed. (2025). Artificial intelligence in HR: Revolutionizing talent acquisition and employee retention. International journal of social sciences bulletin, 3(4), 420-431. https://doi.org/10.5281/zenodo.15421266
- Sunil Basnet. (2024). The impact of AI driven predictive analysis on employee retention strategies. International journal of research and review, 11(9), 50-65. https://doi.org/10.52403/ijrr.20240906
- Durairaj., & Vetrivel. (2024). The effect of AI in employee performance evaluation on

employee retention in the information technology sector. Proceedings of the international conference on digital transformation in business: Navigating the new frontiers beyond boundaries, 88-108. https://doi.org/10.2991/978-94-6463-433-4_8

- Khadija Mohasin., Pravin Mane., Dahanajay Bhavsar., & Hema Mirji. (2025). A study the impact of artificial intelligence on performance management systems with reference to IT industries. International conference on innovative computing and communication. https://dx.doi.org/10.2139/ssrn.5894502
- Peter Karacsony. (2022). Analysis of the attitude of the Hungarian HR professionals to artificial intelligence. Nase Gospodarstvo/ Our Economy, 68(2), 55-64. https://doi.org/10.2478/ngoe-2022-0011
- Lai Chee Yee. (2018). An analysis on the relationship between job satisfaction and work performance among academic staff in Malaysian private Universities. Journal of arts and social sciences, 1(2), 64-73. https://www.ruijass.com/wp-content/uploads/2017/10/2-002LCY-Final.pdf