



A Conceptual Study on Role of AI in Employee Engagement

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Abstract: Introduction of Artificial Intelligence in organisations has transformed the functions of management through automation of tasks, facilitating data based decision making, accelerating competence easing the management to concentrate on organisation as well as employee advancement. Business related AI was being developed since 1950s. Significant developments came into existence since 1980s. It gained momentum in 2010. At present an approximate 83 % of the companies implemented AI. Business Management is being restructured with the introduction of AI in business. Companies are able to improvise the key functions of Management which include planning function, organising function, directing activity, staffing function and controlling activities and build data-driven decisions. AI is now considered as an advantage in Staffing function. Artificial Intelligence is playing a dominant role in Employee Engagement in the present tech world. AI implementation facilitates various tools for addressing clients' enquiries promptly, manage people and develop people, monitor performance, convene meetings and generate reports. With this, all corporate concerns initiated the implementation of AI towards Employee Engagement and address the problems of Employee Engagement. AI facilitates decision making related to Headhunting, Recruitment activities, assessing the applicants, selection, training based on individual strengths and weaknesses, Performance Evaluation, future planning. This paper highlights the benefits of implementing AI in Employee Engagement and risks that may be encountered in AI implementation in Employee Engagement. It also covers the AI driven employee engagement tools which replaces the previous time-taking tasks in HR. Artificial Intelligence hastens employee engagement and employee retention through concurrent feedback, experiences which creates a compassionate and appealing work environment.

Keywords: AI, Employee Engagement, Employee Retention, Decision Making, Management functions.

1. Introduction

Employee Engagement depicts the degree of commitment, involvement and motivation that the workforce expresses towards their tasks. Employee engagement performs a vital role in the accomplishment of company goals and acts as an important catalyst for accelerating productivity, improvising job satisfaction totalling to overall corporate performance. Employee engagement can be represented by the emotional venture and steady loyalty that the employees portrays towards their roles and the organisation in which they are employed [1]. Employee Engagement also means the degree to which the employees show persuasive zeal towards their role, dedicated attitude towards the objectives and goals of the company and exhibit auxiliary involvement beyond their roles.

Employees who are diligently involved and dedicated to their job roles portrays enhanced involvement and efficiency, which leads to the accelerated outcomes. Dedicated and Committed employees are prone to retention in the present designations which leads to decline in the training, recruitment and selection costs. Committed employees are able to offer better customer service which increases the customer satisfaction and commitment. Devoted employees are prone to extend innovations solutions. It shows a positive relationship between the increased levels of employee engagement and improved well-being of the workforce.

Artificial Intelligence is transfiguring the work environment, modernizing the business operations and interaction with its workforce [2]. Institutions thrive for achieving substantial proficiency and efficacy and the role of AI is significant improving employee performance and engagement.

Employee Engagement is the key for success of any organization. It helps for employee motivation, enhanced productivity and retention. Artificial Intelligence play a significant role in individualizing the experiences which results to enhanced engagement level. AI focused Learning cum Development programs can customize training program to cater the employee needs and make the training sessions more constructive. AI is also useful to evaluate workforce feedback and improvise teamwork.

AI-enabled applications currently in use is playing a crucial role in corporate world. It has a significant effect on the workforce engagement and productivity. Artificial Intelligence is implemented to administer Job Security, Job Performance and

Employee Engagement paved for lessening the tasks and amplify productivity. AI is developing at a tremendous phase which consists of substantial capability to remodel multiple sectors and accelerate human capabilities [3]. AI brought significant changes in every industry of the economy viz., banking sector, logistics, health care, and amusement. Artificial Intelligence portrays significant capacities similar to human beings, which permits it to perform a cluster of routine tasks, gain insight and adapt to the contemporary situations. Machine Learning is a subset of AI which aims on the development of models and algorithms facilitating systems to gather information from the data. A specialized area of Machine Learning is Deep Learning which implements artificial neural network systems that contributed notable advancement in numerous domains.

Human Resources Management is shaping a tremendous shift with the implementation of AI in HR. This integration led to the Routine Activities Automation, drawing conclusions after analysis of data, advancement of decision making processes in Human Resources Management [4]. Employees who earnestly involve in their job roles depicts accelerated motivation, increased productivity and reduced job turnover paving for organisational goals accomplishment.

2. Literature Review

Rajeshwari et al. (2023) in her study described the role of AI in transforming employee engagement strategies. The research throws light on AI-based tools, like Chabot, predictive analytics, and sentiment analysis, which assists in gathering and analysing data to provide valuable insights into employee behaviour and preferences. These perceptions permit organizations to mould interventions that inculcates a more supportive, motivating and inclusive work environment.

Priya et al. (2024) expresses how AI technologies are substituting the present Human Resources practices to introduce a more tailored and vibrant employee experience. The study spotlights the usage of AI in on-boarding, recruitment, performance management, and feedback mechanisms by the workforce.

A structure suggested by Alasfoor and Hamdan (2023) recommends merging AI-driven tools with traditional engagement practices to generate a comprehensive style. This combination allows institutions to succeed from the advantage of both AI and conventional practices, which results in a enhanced holistic engagement.

“Employing information and communication technology, such as artificial intelligence (AI), is another way to help employees reach difficult goals and engaging with a difficult job and employees job engagement “ by Li et al., 2021 & Ahn et al., 2019.

Fu et al., 2022 in their study revealed “Implementation of AI services assists in accelerating Job performance, job engagement, reliability and accuracy. In digital transformation eon companies cannot rely heavily on skill and dedication of the employees [5]. Technical Savvy firms are implementing AI tools to enhance the capability of the employees for righteous service than financing training. This study exhibits that a high degree of AI services for employees could upsurge their job performance and job engagement in the companies”.

In the study of Reilly, 2018; Abedin, 2022, “The increasing prevalence of AI, which has been seen to replace some human employment and pose challenges to the workforce, makes job security all the more crucial”.

Huang and Rust, 2018 in their study revealed “Implementing AI services could rebound if employees feel insecure about their jobs and this could result in technology misuse, conflict, and even counterproductive behaviors that could harm organizational performance and reputations in addition to lowering job engagement”.

“Employees with job stability have greater internal resources for self-control and involvement at work. Nevertheless, job security could lessen the negative effects of AI on customer service quality by providing employees with the confidence that advances in technology will support, not replace,

2.1. Objectives and Methodology

To acknowledge the role of AI in boost Human Resource (HR) activities and enhance employee’s engagement.

To gain an insight on various tools implemented in AI for Employee Engagement.

To understand the various risks that may be encountered in AI implementation for Employee Engagement.

Artificial Intelligence and Employee Engagement:

In the rapid growing business environment, Employee Engagement became a crucial factor of Organisational success. Employees who are more engaged exhibit to be more creative and constructive and retain in the organisation. It minimises employee turnover and results in constructive work environment. It is a highly challenging task for maintaining the superior engagement as the human resources are divergent.

Artificial Intelligence is a transmuting technology restructuring different facets of professional living. Employee engagement was transformed by AI which offers unmatched chances in personalising experiences, furnish feedback real time, prediction and resolution of disengagement by the employee.

Employee engagement supports organisations from personalized communication to Predictive analysis in the following ways:

- (a) **Pulse Monitoring and Sentiment Analysis:** Artificial Intelligence tools can evaluate the sentiment of the employees via emails, surveys and chats to judge the moods of the employees. This will be of immense help to the superiors to spot light the key issues and resolve them.
- (b) **Service and Support Automation:** Instant answers are provided by the AI for the queries of the employees and help in automation of regular admin functions viz. time tracking, leave management and benefit changes. This will assist in minimising the administrative burden and assists them to concentrate on work.
- (c) **Intelligent Career Development:** By evaluating the skills, performance and preference of the employees, AI can give recommendations on individual career. This makes the employee to get clarity on growth career in the organisation, enhanced engagement.
- (d) **Improved on boarding Experience:** Through individual and interactive experience, AI can regularise on boarding. Chatbot AI provide guidance to the new entrants through required Through individual and interactive experience, AI can regularise on boarding. Chatbot AI provide guidance to the new entrants through required training sessions, company policies and paperwork which infuse them in to the organisation culture.

- (e) **Concurrent Recognition and rewards:** AI enabled platforms helps to identify the achievement of the employees or extraordinary performance and suggest automatically correct rewards and recognition. It builds positive mind-set and enhances morale.
- (f) **Workforce Wellness Programs:** AI also assists in the personal wellbeing of the workforce by evaluating their health information, work style and level of stress. It helps them to maintain a healthy life.
- (g) **Predictive Analytics for Workforce Retention:** AI services are utilised in predicting the peril of employee disengagement or employee turnover by analysing employee job satisfaction surveys, performance metrics and employee engagement scores.
- (h) **JIT micro learning:** Instantaneous learning is possible through AI enabled learning platforms to cater the need of the employees in their job. This enhances workforce engagement and job satisfaction.
- (i) **Feedback and Personalised Communication:** Employee behaviour and priority can be analysed through AI tools for customised feedback and communication. AI tools enables to send well timed and pertinent feedback on the basis of performance metrics which enables the employees motivated and to retain.
- (j) **Promote Diversity and Inclusion:** AI tools assist organisations to track and foster diversity and inclusion by investigating recruitment, promotions and engagement of workforce. AI assists organisations to generate a more inclusive work environment promoting employee engagement.

Risks in AI implementation for Employee Engagement

AI implementation for workforce engagement contributes a lot of benefits to the firm and also poses the following risks which need to be addressed with care and implement strategies for its mitigation.

Data Security and Privacy:

- (a) **Unauthorised Access:** AI tools access the susceptible employee information like performance reports, feedback information and so on to work efficiently. It leads to unauthorised access of data
- (b) **Compliance to regulations:** It is the duty of the organisations to ensure fulfilment to data protection regulations which implementing AI to evaluate the employee information.

Bias and Discrimination

- (a) **Algorithmic Bias :** AI tools are well versed on data and the same reflects the present biases, the AI can continue or exaggerate the biases which leads to unjust outcomes.
- (b) **Fair and Equitable Decision Making:** Organisations implementing the AI tools must ensure that AI based decisions are just and equitable, eliminating the demographic bias.
- (c) **Auditing and Monitoring:** AI systems must be monitored and audited periodically to investigate and resolve potential biases.

Clarity and Control

- (a) **Lack of Clarity:** AI algorithms black box nature can create complexity in understanding the decision making, instigate concerns regarding accountability and substantial misuse of data.
- (b) **Trust of Employees:** Lack of Clarity can dilute the trust of the employees on AI tools which paves for resistance and disengagement.

Job Reduction and Skill shortcoming

- (a) **Automating routine Tasks:** AI automates routine works which leads to job reduction or upgrading of employees to changing technologies.
- (b) **Reskilling and Upskilling:** Corporates need to raise investments in upgrading the skills of the employees to enable them to suit the changing needs of AI implementation.
- (c) **Emphasis on Human Skills:** Human skills like creative thinking, critical thinking and empathy are difficult to automate which are of utmost important in the work environment.

5. Cultural and Behavioural Resistance

- (a) **Employee Resistance:** AI implementation may lead to resistance by the employees especially if there exists the fear of Job displacement or modifications in work procedures.
- (b) **Training and Communication:** Training on AI and clear communication are a must to enable the employees to understand the advantages of AI and to resolve their concerns.

Ethical Considerations

- (a) **Human Aspects:** AI should not replace human interaction and care, which are intrinsic for

developing strong relationships and nurturing supportive work place.

- (b) **Autonomy:** Autonomy need to be provided to the employees in their work and they should not be subject to undue influence or modifications by the AI tools.
- (c) **Privacy:** AI tools which supervise the workforce behaviour crop to ethical concerns about privacy and supervision.

3. Conclusion and Future Scope

Artificial Intelligence exhibits a key role in accelerating employee engagement by furnishing personalised experiences, actionable insights and concurrent feedback. Through AI implementation, institutions can produce a better supportive, responsive and engaging work environment which enhances productivity, satisfaction and retention of the workforce.

References

- [1]. Arslan A., Cooper C., Khan Z., Golgeci I., Ali I. (2021). Artificial intelligence and human workers interaction at team level: a conceptual assessment of the challenges and potential HRM strategies. *Int. J. Manpow.* 43:1. doi: 10.1108/IJM-01-2021-0052
- [2]. Dr. Priyanka Shrivastava, Dr. Dharmendra Mehta, The Influence Of Artificial Intelligence On Employee Engagement, *Journal of Emerging Technologies and Research*, March 2025, Volume 12, Issue 3.
- [3]. Bansal et al., (2023) A Review of The Role of Artificial Intelligence in Employee Engagement. 9th International Conference on Advanced Computing and Communication Systems (ICACCS)
- [4]. Emilia Sari et al., (2020) Artificial Intelligence for a Better Employee Engagement. *International Research Journal of Business Studies*. vol. XIII no. 02, pp. 173-178.
- [5]. Praveen Gladvin M, "The Role of Ai In Enhancing Employee Engagement", *International Research Journal of Modernization in Engineering Technology and Science*, February-2025, Volume: 07, Issue: 02

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