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The Impact of Artificial Intelligence on Employee Engagement and Job Performance: An Empirical Study

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Abstract

Artificial Intelligence (AI) is transforming the modern workplace by automating routine tasks, improving decision-making, and enhancing employee productivity. The integration of AI into organizational processes has significantly influenced employee engagement and job performance. This empirical study aims to examines the impact of AI adoption on employee engagement and job performance. It focuses on key factors such as AI-enabled task automation, employee trust in AI, perceived usefulness of AI tools, AI-driven learning and development, and employee adaptability to technological changes. Furthermore, it investigates whether AI adoption enhances employee engagement by reducing repetitive workloads and enabling employees to focus on more meaningful and creative activities. At the same time, the study considers potential challenges, including job insecurity, technological stress, skill gaps, and concerns regarding the replacement of human roles. The findings are expected to provide insights into how organizations can implement AI effectively while maintaining employee trust, engagement and productivity. The research emphasises the importance of balancing technological advancement with employee well-being to achieve sustainable organizational success in the AI-driven workplace. A sample of 261 was collected to find the result of the study. The factors influencing the Impact of Artificial Intelligence on Employee Engagement and Job Performance are Employee Trust in AI, Work Efiiciency & Task Automation, AI Adoption and Utilization and AI Training and Skill Development. The study concludes that there is significant impact of Artificial Intelligence on Engagement and Performance of the employees.

Keywords: Artificial Intelligence (AI), Job performance, employee engagement, Employee trust, Employee productivity, Human Resource Management

Introduction

As Artificial Intelligence is proliferated rapidly across the corporate environment, the operational paradigm is getting shifted, it is forcing organizational management for re-evaluation of structural dynamics which is surrounded by employee engagement and productivity at the workplace. Operational efficiency gets improved by Artificial Intelligence as it automates everyday activities, it supports data-driven decision-making, and enable employees to concentrate on activities that are of high-value. However, its overall effect is dependent on how companies implement and manage such technologies. It is indicated by the findings that companies who are adopting transparent AI governance, constant upskilling of employees and human-centric strategies of implementation for achieving high employee engagement, improvement in productivity and sustainable organizational performance. Artificial Intelligence need to considered as a collaborative partner and not as a replacement of human intelligence (Khan, Yadav & Chandravanshi, 2026). Artificial Intelligence and automation have increased the level of productivity as it improves task efficiency and reduction in manual workload. However, the influence on employee engagement depends on how well the transition is handled. Supportive organizational culture and effective leadership is highly essential. Practices of clear communication and transparent policies helps in the reduction of resistance and rise in trust in changes driven by Artificial Intelligence. Organizations need to ensure implementation of AI with human values, it include involvement of employees in decision-making,

providing them constant upskilling, designing of AI for supporting, and not replacing roles played by human. Organizations need to make investment in changing management strategies, ethical deployment of Artificial Intelligence and programs of workforce development for improving resilience and adaptability (Bajpai & Sanehal, 2025). Integrating AI in the workplace environment has transformed employee engagement and experience profoundly. Multifaceted impacts of Artificial Intelligence are explored on these important aspects of HRM, it has highlighted positive advancements as well as the challenges accompanying the implementation of AI. Tools and technologies of Artificial Intelligence are offering many advantages that include personalized work environment, automating everyday activities, improving opportunities of learning and development, enhancing communication at the workplace, real-time mechanism of feedback, predictive analytics for retention of employees and tools to achieve improved work-life balance. Such advancement can substantially improve the level of job satisfaction, productivity and overall engagement among employees (Parasa, 2024). Important role is played by AI in transforming optimization of operations, management of innovation and the process of decisions. The culture of innovation assists in fostering creativity and adaptability. Clarity is created by effective change leadership, it also creates a sense of shared purposes among employees in the firm, it makes it a main element for guiding employees successfully through transitions. To sustain motivation, satisfaction and collaboration work engagement is important among employees, all of these make contribution for high team performance. It is revealed by the results that a culture of innovation, change leadership and work engagement encourage and helps in facilitating collaboration among employees (Tuan, 2025). The technologies and innovation of AI have opened app for providing new opportunities to employees and for improving skills and talents helping in improving performance and leads to job satisfaction. Employee's well-being has become an important element all over the globe. It has been given high preference and has attained momentum to promote organizational growth. Well-being of employees lead to job satisfaction and work performance at work. AI satisfaction and quality of service makes influence on non-supervisory group level of company. Artificial Intelligence innovation is usually related with enhanced objectives of employee performance, mainly in tasks that are repetitive, based on rules and data-intensive. Artificial Intelligence would improve by streamlining the process and provide data-driven insights (Gayathri & Bella, 2024). Employee motivation is explained by engagement theory and how its involvement plays a main role in optimization of benefits of Artificial Intelligence. Research gaps are answered by the findings that were related to the technology integration and dimensions of human elements to measure the influence of AI on performance of the workforce, and also confirms the novelty of study to combine technical and social perspectives. It is essential to develop user-friendly and responsive Artificial Intelligence system for supporting engagement for productive improvement to become sustainable. Psychological elements like acceptance of technology and readiness to adapt and digital literacy competencies of employees are important for successful implementation of Artificial Intelligence (Abdurrahim, 2025).

Literature Review

Artificial Intelligence is highly important for modern employee engagement as well as performance management, it offers modern tools for analysing sentiments, automation of feedback and personalization of growth journey of employees. Organizations can attain constant insights into morale of the workforce by leveraging Artificial Intelligence for analysis of sentiments of employees, it also helps in tailoring their communication and culture efforts. Virtual assistants and chatbots are extending capabilities of HR for supporting employees in real-time, it fosters an environment where help and feedback are accessible easily. Performance management has been transformed by AI-driven analytics turning it into a proactive, data-driven practices, where catching an issue at early stage, delivering fair and quick evaluation, and matching individual goals with organizational goals in a dynamic way. Artificial Intelligence is improving employee engagement and performance management as it makes such processes more personalized, immediate and insight-driven. Companies integrating Artificial Intelligence into HR practices thoughtfully are more likely to cultivate more productive, engaged, and loyal employees. With the evolving technologies, the synergy of AI and human is important to shape up positive employee experience as well as sustainable performance results (Marcus, 2025). AI and it related technologies can enhance the efficiency greatly with which a company can manage their digital information assets, it includes time as well as money. The administrative process is highly time-consuming due to the huge number of tasks

involved in it. But activities related with digitalization have the potential to lighten up the load on professional, boosting performance of employees and adding to the volume of work would have otherwise been done by hands (Laxmi & Leela, 2023). Employee engagement is influenced by Artificial Intelligence technologies with multiple methods, it includes transformation of tasks, mechanism of feedback, authority of decision and identifying effects. Such influences might vary considerably across engagement dimensions, with the strong positive influence observed typically in cognitive engagement as well as challenges in social and purpose engagement dimensions. The association between implementation of Artificial Intelligence and results of engagement is moderated strongly by approach of implementation, with augmented-focused and transformation-focused approach yields more positive results compared to efficiency-focused implementations. This different do not just show the preservation of human tasks but the creation of a meaningful partnership between human and technology. Contextual elements like industry, size of organization, characteristics of work and composition of workforce moderates the impact of AI on engagement and culture significantly. These variations highlight the significance of contextually sensitive implementation rather than generic practices. Successful integration of human and Artificial Intelligence follows typically a developmental path; it moves initially from disruption through experimental adaptation towards subsequent integration. Companies recognising and supporting this process of development provides proper resources, tolerance for experimentation and mental support at each level for achievement of more sustainable engagement as well as cultural results (Ramirez & Bablu, 2022).

Using AI in activities of company for management of HR in the domain of employee engagement, job security, job performance, mainly in the process of reducing workload of employees and improving performance of business. A positive influence is made by Artificial Intelligence on employee engagement as well as performance of the company. AI and job performance were associated significantly with job engagement as well as service performance. Moreover, a positive impact is made by job security on increasing the job engagement of employees and service quality. The implication of study supports strategies to conduct performance research and management of human resource. Organizations can optimize HR management process by leveraging AI-powered tools and technologies, it also improves decision-making and develop employee engagement as well as satisfaction. However, it is important to address ethical as well as social concerns related with the adoption and implementation of Artificial Intelligence like transparency, bias and privacy, in order to ensure the advantages of Artificial Intelligence are realized without compromising rights and well-being of employees (Malik, 2024). The nature and pace of work has been altered by the transformation brought by Artificial Intelligence. The incorporation of AI in different sectors makes a significant influence on employee performance and operational efficiency of the company. AI integration results in enhancing the overall efficacy of employees, boosting their productivity in the present working system, and produces results accelerating the process to achieve organizational objectives. Adopting Artificial Intelligence skills makes a substantial influence of employee when supported by management, employees have interest as well as attain skills for adoption, and if supported infrastructure is developed for AI integration. Incorporating and collaborating AI with machines enhances operational efficiency, creativity and thus results in improving employee's productivity. Support from management assist in matching the customization of Artificial Intelligence tools with organizational objectives that results in improving the overall productivity of employees (Farhan, Alhazmi & Alsakkaf, 2025). Despite the rising utilization of AI tools and technologies at the workplace, studies on understanding human dimensions of these organizations stays limited. The focus on initial studies was on acceptance of employees about Artificial Intelligence tools and technologies, there is a requirement to analyse such tools and technologies on perceived usefulness and trust of employees, and their engagement and empowerment with tools. It is indicated by the results that understanding of employee with regards to Artificial Intelligence makes positive influence on their perception, trust, engagement and empowerment, while declining fear, and resistance to alterations associated with AI tools and technologies. Furthermore, knowledge of Artificial Intelligence emerges from the acceptance to active empowerment and engagement with AI tools in the company (Thevisuthan, 2025).

For improving efficiency and decision-making on the organizations, Artificial Intelligence is becoming highly popular tool. It is helping companies in making better decisions, lowering down the workload of employees, and optimising the performance, it all makes contribution to towards overall success of the company. It is shown evidently in the conclusion that Artificial Intelligence is an effective tool to enhance efficiency and efficacy in modern practices of management. However, not all influencer of AI on employee engagement are positive and

depends in the process of implementation process of Artificial Intelligence. Although, life would become easier with AI as well as more productive, it might also put at risk human communication giving rise to issues related with losing jobs as well as shifting the roles. Such aspects might impact employee's satisfaction, engagement and motivation. Therefore, organizations require a humanistic approach towards AI applications. Artificial Intelligence should not be replaced with human interactions, but should be supplemented and complemented by employees. Steps needed for ensuring engagement include appropriate training and promotion of communication, engaging employees in the adoption process (Srivastava & Archarya, 2026). It is AI and not just an specialized analytical tool but a general trade tool that has become essential part of communication, software development, customer service, marketing, HRM and the process of managerial decision-making. The way any employee work has been transformed by Artificial Intelligence, and that is through the process of creation, handling and action of information. In the past few years, adoption of AI has become rapid, particularly post the adoption of generative AI. The trends were so convincing that it is evident that AI has also been included into the process of knowledge in different companies. Rewards to employees can be manifested in improved outcomes like saved time, attention devoted, produced creativity, delivered performance being new evidence appearing in the company as well as labor market that associate AI exposure to productivity gains and shifts in skill premiums (Kumar, 2026). The way organizations are performs has been constantly been transformed by AI by improving decision-making, automation of everyday activities and improving overall accuracy. It is revealed by the findings that employees positively perceive AI tools in terms of its usefulness, ease of use, utilization and attitude. Such favourable perceptions suggest that Artificial Intelligence system is usually accepted and considered advantageous to support every day tasks. Indicators of job performance were also rated high, mainly in tasks performance and contextual performance, although counter-productive behavior of work shows moderate positive score. Employees are appreciating Artificial Intelligence tools, the systems might be optimised fully, applied consistently or matched with particular requirement of job. It is also possible that certain activities are automated by Artificial Intelligence, making traditional performance looks lower due to less manual efforts are needed. It is suggested by the results that other internal elements like training, designing system, clarity of workflow and organizational support might not play important role in identifying how effectively Artificial Intelligence contributes towards improvement of performance (Lunzaga, Segura & Pelmin, 2025).

Objective

1. To explore factors influencing "The Impact of Artificial Intelligence on Employee Engagement and Job Performance"
2. To measure the impact of Artificial Intelligence on Engagement and Performance of the employees.

Methodology

261 participants were surveyed from respondents based on Duration of AI Tool usage. The method of sampling was "Random sampling" for collection of data and examination was done by "Explanatory Factor Analysis" for results.

Findings

Table 1 demonstrates demographic details, it shows that 52.87% are Male, 47.13% are female. Looking at the age, 23.37% are below 20 years, 33.72% are between 20 to 30% 22.61% are between 30 to 40 years and 20.30% are above 40 years. Looking at the Duration of AI Tool usage, 18.77 were using AI from Less than 6 months, 19.54% from 6 months to 1 year, 1 to 3 years were 1 to 3 years, 24.14% More than 3 years and 17.25% Never used AI Tools.

Table. 1 Respondent's Details

Variables	Participants	Percentage
Gender		
Male	138	52.87%
Female	123	47.13%
Total	**261**	**100**
Ages in years		
Below 20 years	61	23.37%
20 to 30	88	33.72%
30 to 40	59	22.61%
Above 40	53	20.30%
Total	**261**	**100**
Duration of AI Tool usage		
Less than 6 months	49	18.77%
6 months to 1 year	51	19.54%
1 to 3 years	53	20.30%
More than 3 years	63	24.14%
Never used AI Tools	45	17.25%
Total	**261**	**100**

"Factor Analysis"

"KMO and Bartlett's Test"

Table. 2 "Kaiser-Meyer-Olkin Measure of Sampling Adequacy"

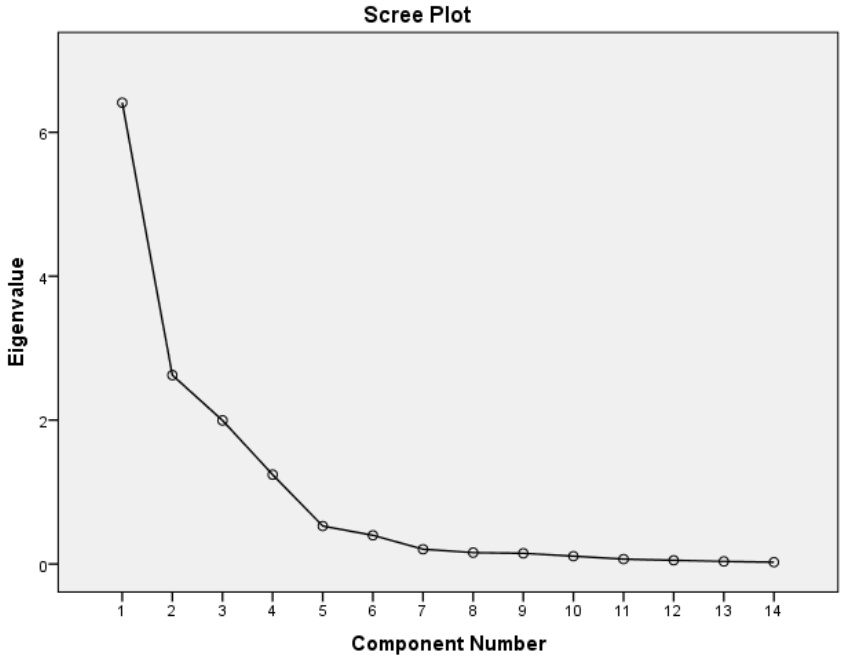
"Kaiser-Meyer-Olkin Measure of Sampling Adequacy"		.769
"Bartlett's Test of Sphericity"	"Approx. Chi-Square"	4601.932
	df	91
	Significance	.000

"KMO and Bartlett's Test", value of KMO is .769 (Table 2).

Table 3 "Total Variance Explained"

"Component"	"Initial Eigenvalues"			"Rotation Sums of Squared Loadings"		
	"Total"	"% Of Variance"	"Cumulative %"	"Total"	"% Of Variance"	"Cumulative %"
1.	6.412	45.799	45.799	3.885	27.748	27.748
2.	2.625	18.751	64.550	3.617	25.837	53.585
3.	1.996	14.255	78.804	2.465	17.606	71.191
4.	1.242	8.872	87.676	2.308	16.485	87.676
5.	.527	3.767	91.443			
6.	.399	2.848	94.292			
7.	.205	1.464	95.756			
8.	.158	1.129	96.885			
9.	.148	1.057	97.942			
10.	.109	.776	98.718			
11.	.067	.482	99.200			
12.	.052	.368	99.568			
13.	.036	.257	99.825			
14.	.025	.175	100.000			

The four factors contribute towards explaining total 87.676% of variance. Variance explained by Employee Trust in AI is 27.748%, Work Efiiciency & Task Automation is 25.837%, AI Adoption and Utilization is 17.606%, and AI Training and Skill Development is 16.485%. (Table 3).



"Scree Plot"

Table. 4 "Rotated Component Matrix"

S. No.	Statements	Factor Loading	Factor Reliability
	Employee Trust in AI		**.952**
1.	Employee trust information and recommendation provided by AI tools	.953	
2.	Employee believe AI tools produce reliable results for work-related tasks	.908	
3.	They feel confident using AI to support professional responsibilities	.853	
4.	Organization provide adequate guidance on proper use of AI	.844	
	Work Efiiciency & Task Automation		**.961**
1.	AI reduces the time required to complete repetitive work tasks	.961	
2.	AI tools minimize errors in routine work activities	.899	
3.	AI allows to focus on higher-value and creative tasks	.895	

4.	AI help reduces workload by automating routine activities	.874	
	AI Adoption and Utilization		**.870**
1.	AI helps in completing work task more efficiently	.908	
2.	Using AI helps in improving the speed of work processes	.846	
3.	AI tools help in performing complex tasks with greater ease	.763	
	AI Training and Skill Development		**.831**
1.	Organization provide sufficient training to help employees use AI tools	.931	
2.	AI tools help in skill development relevant to job	.928	
3.	AI-based learning resources improve professional knowledge and abilities	.622	

Factors of the study and its related variables

Employee Trust in AI is the first factor of the study, the variables it includes are Employee trust information and recommendation provided by AI tools, Employee believe AI tools produce reliable results for work-related tasks, they feel confident using AI to support professional responsibilities and Organization provide adequate guidance on proper use of A. Second factor is Work Efiiciency & Task Automation, its variable are AI reduces the time required to complete repetitive work tasks, AI tools minimize errors in routine work activities, AI allows to focus on higher-value and creative tasks, and AI help reduces workload by automating routine activities. AI Adoption and Utilization is the third factor; it includes variable like AI helps in completing work task more efficiently, Using AI helps in improving the speed of work processes and AI tools help in performing complex tasks with greater ease. Last and fourth factor is AI Training and Skill Development, its variables are Organization provide sufficient training to help employees use AI tools, AI tools help in skill development relevant to job and AI-based learning resources improve professional knowledge and abilities.

Table 5 “Reliability Statistics”

“Cronbach's Alpha”	“Number of Items”
.899	14

Total reliability of 14 items that includes variables for Factors exploring the “The Impact of Artificial Intelligence on Employee Engagement and Job Performance” 0.899 (Table 5).

"Table 6 Model Summary"

"Model"	"R"	"R Square"	"Adjusted R Square"	"Std. Error of the Estimate"
1	.850[a]	.722	.718	.41119
Predictors: (Constant), Employee Trust in AI, Work Efiiciency & Task Automation, AI Adoption and Utilization, and AI Training and Skill Development				

The adjusted R-squared value is 0.718 with approximately 72% of the variation.

"Table 7 ANOVA"

"Model"		"Sum of Squares"	"df"	"Mean Square"	"F"	"Sig."
1	"Regression"	112.333	4	28.083	166.095	.000[b]
	Residual	43.284	256	.169		
	Total	155.617	260			
a. Dependent Variable: Overall impact of Artificial Intelligence on Engagement and Performance of the employees						
b. Predictors: (Constant), Employee Trust in AI, Work Efiiciency & Task Automation, AI Adoption and Utilization, and AI Training and Skill Development						

Value under significant column indicates a significant relationship between (Employee Trust in AI, Work Efiiciency & Task Automation, AI Adoption and Utilization, and AI Training and Skill Development) and engagement and performance of employee.

"Table 8 Coefficients"

"Model"	"Un standardized Coefficients"		"Standardized Coefficients"	"t"	"Sig."
	"B"	"Std. Error"	"Beta"		
(Constant)	3.927	.025		154.297	.000
Employee Trust in AI	.336	.026	.434	13.159	.000
Work Efiiciency & Task Automation	.053	.026	.069	2.093	.037
AI Adoption and Utilization	.291	.026	.376	11.417	.000
AI Training and Skill Development	.481	.026	.622	18.881	.000
DV: Overall impact of Artificial Intelligence on Engagement and Performance of the employees					

All the factors Employee Trust in AI, Work Efiiciency & Task Automation, AI Adoption and Utilization, and AI Training and Skill Development are showing significant impact of Artificial Intelligence on Engagement and Performance of the employees. Highest impact is shown by AI Training and Skill Development (.622) followed by Employee Trust in AI (.434), AI Adoption and Utilization (.376), and Work Efiiciency & Task Automation (.069).

Conclusion

Artificial Intelligence (AI) is playing an increasingly important role in transforming workplace practices and improving employee engagement and job performance. The study highlights the potential of AI tools to automate repetitive tasks, enhancing decision-making, improve work-efficiency, and support employee learning and development. The effective use of AI can enable employees to concentrate more creative, meaningful, and strategic activities, thereby contributing to higher motivation, job satisfaction, and productivity. Organizations should adopt a human-centered approach to AI implementation by providing continuous training, maintaining transparent communication, and involving employees in technological changes. Managers and human resource professionals must ensure that AI complements human capabilities rather than simply replacing them. In conclusion, the successful integration of AI into workplace requires a balance between technological innovation and employee well-being. By implementing AI responsibly and addressing employee concerns, organizations can strengthen employee engagement, improve job performance, and achieve sustainable organizational growth in an increasingly digital business environment. The factors influencing the Impact of Artificial Intelligence on Employee Engagement and Job Performance are Employee Trust in AI, Work Efiiciency & Task Automation, AI Adoption and Utilization and AI Training and Skill Development. The study concludes that there is significant impact of Artificial Intelligence on Engagement and Performance of the employees.

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