



## Employee Engagement and New Age Work Practices Driven by AI and Mediated by HR Analytics

<sup>1</sup>Vidhya Shree V, <sup>2</sup>Dr. L.R.K Krishnan

<sup>1</sup>VIT University, Business School, Chennai, India.

Email - vidhyashreeveeraseskaran@gmail.com

Professor (OB/HR, ER & LL)

<sup>2</sup>VIT University, Business School, Chennai, India.

**Abstract:** *The study explores the impact of AI on employee engagement moderated by workforce practices and changing behavior with the help of HR Analytics. The research is quantitative in nature and the data were gathered from 400 individuals via a self-administered questionnaire. The research was conducted by using questionnaires and interviews. Regression analysis was undertaken using SPSS software. The last decade has seen considerable growth in the use of disruptive technologies such as Artificial Intelligence (AI) and Machine Learning (ML) in driving HR service delivery to find solutions to problems that are increasing in complexity and scale. The paper aims to examine the use of AI and HR Analytics, which changes behavior and work practices impacting employee engagement. In this study, we develop a road map for developing better work practices with an assessment of the current state of the practice. The research highlights how AI tools in the future by using HR Analytics can be applied to behavior at work. The findings showed that using AI in HR practices significantly impacts employee engagement and performance at work, enhancing business performance and sustainability. The study also correlates with other scholarly contributions.*

**Key Words:** Automation, Business performance, Data science, Disruptive technologies, Strategy.

### 1. INTRODUCTION:

Technological progress is one of the most important variables in shaping any sector of the economy. Robots have been used to replace humans in the manufacturing industry since the 19th century. It was in the 1970s that the third revolution began when personal computers and the internet became commonplace in the workplace. In today's society, artificial intelligence is in full swing, and there is a wide range of potential applications for related technology in product design. With the development of the Internet of Things technology, cloud storage, and big data applications in the twenty-first century, humans are planning, science is researching, and technology is collaborating. Artificial intelligence will become more and more involved in people overturning life, changing or even subverting people overturning life and mode of production ( Xu et al, 2019). In 1956, researchers first used the term "artificial intelligence." Artificial intelligence is useful in many areas of a business, particularly those that involve reducing the stress and volume of work experienced by employees. Businesses need to be able to adapt quickly to changing conditions. Utilizing cutting-edge technology reduces costs, which is where training and skill development is important for enhancing talent and preparing workers for workplace demands ( Krishnan et al, 2022).

Computerized equipment at work can be seen as assets that the organization has given to its staff to diminish the requests of their positions and advance self-improvement. At the point when work environment digitalization is seen as a task asset, representatives are bound to put resources into themselves (Ashforth and Humphrey, 1995), connect sincerely in the working environment, and stretch their talent toward the hierarchical result (Shuck and Wollard, 2010). Worker commitment is a positive and compensating mental expression that incorporates energy, devotion, and ingestion, as per (Schaufeli et al,2002).

There are numerous ways of characterizing worker commitment, and this can prompt some tangled and uncertain correspondence. It appears they all start with the idea of support itself. As per Merriam-Webster, "locking in" signifies "drawing in good consideration or interest." It can likewise imply "to possess the consideration or endeavors of an individual or people" or "clinging tightly." The expression "representative contribution" has been characterized in comparative ways. As indicated by (Rothbard, 2001), it is a "mental condition of retention and readiness".The learning inclinations, hunger, style, and bend of recent college grads utilizing state-of-the-art innovation at work are straightforwardly related. The noticed example adequately shows how innovation instruments are utilized to develop performance and commitment fundamentally further (Krishnan et al, 2021).



In the recent past, HRD researchers have characterized these thoughts as a "positive, dynamic, business-related mental state operationalized by the upkeep, force, and bearing of mental, profound, and social energy." Every definition requires an impulse and activity when considered as an entirety. To put it another way, laborers are excited about their positions as well as anxious to place in extended periods for them. Consequently, in this section, we incorporate both characteristic inspiration and outward motivating forces as parts of worker commitment. The expression "representative association" is utilized to depict the technique through which laborers are made more put resources into their work and given more control over key business choices. Representative contribution ensures that laborers nearest to the gig have the position to coordinate how that work is finished, and the chance to apply their mastery to the upgrade of processes.

Without worker support, representative commitment is inadequate. By "inclusion," we mean the degree to which a representative feels a unique interaction with, and appreciation for, the work that they perform. Working environment digitalization might liberate representatives from tedious, and dreary work, changing how occupations are planned, how individuals are, and what capacities are generally anticipated of them (Morris and Venkatesh, 2010). The expression "worker contribution" has come to mean a variety of things in the workplace. Employees' 'growth in their positions and how their associations' work are featured. The most well-known techniques used to energize representative associations are quality circles, nature of work-life programs, consultative councils, gain sharing, position advancement, and work overhaul.

Organizational controls are put in place to incentivize employees to act in ways that further the business. Organizational controls that monitor behavior and outcomes are two of the most common types. To exercise effective behavioral management, it is necessary to monitor employees closely. In outcome control, the results of an employee's efforts are evaluated on an objective scale. Several platforms use AI-based management solutions to oversee their human resources operations. The driver of an Uber, for instance, receives instructions on whom to pick up, how to get there, and where to drop them off from a Smartphone app powered by artificial intelligence (Rosenblat & Stark, 2016). We can expect that management systems powered by artificial intelligence will play a vital role in ensuring enterprises remain under tight supervision.

## **2. REVIEW OF LITERATURE:**

- Kahn (1990a) is regarded as the first person to significantly advance the discipline of engagement (Avery et al. 2007; Stairs and Galpin, 2010). He established the first grounded theory in the study of work apathy and employee dissatisfaction. He concluded that workers need to feel that their jobs have significance, that they are safe, and that they have access to support from their employers to be fully invested in their work.
- As indicated by (Kahn, 1990b), representatives who are both truly and intellectually present at work are bound to be useful. At the point when individuals discuss how connected they are working, they are normally alluding to either how much additional work they put in (Baumruk, 2004; Richman, 2006; Shaw, 2005) or how emotionally and intellectually invested they are in the organization (Frank et al., 2004)
- As far as friendly trades inside the association, the tremendous impacts of dependable computer-based intelligence signals on representative commitment can be made sense of; cooperation between staff individuals and the business is laid out and kept up with as harmony among giving and getting (Cropanzano and Mitchell, 2005). At the point when the utilization of moral computer-based intelligence frameworks is ensured, laborers might compensate the organization with further developed work performance, like higher commitment (Masterson et al., 2000). Training and development is one of the ways to improve employee engagement (Jain & Khurana, 2017). AI tools can be used in the training processes to enhance employee engagement.
- According to Macey and Schneider (2008), the leadership and management style of a company may indirectly affect the engagement behaviors displayed by employees through the leaders' ability to foster trust among their team members. AI-powered HR tools can enhance employee satisfaction (Gartner, 2019). A study by Gartner found that organizations using AI-powered HR tools reported increased employee satisfaction, with workers saying that they felt more valued and appreciated. According to Lloyd Morgan's research, having effective communication systems is one of the managerial traits that can be crucial for engagement (Morgan, 2004).
- According to Krishnan (2020), Industrial training guarantees that the organizational workforce is prepared to quickly adopt technological advancements and maintain high standards to meet business requirements.
- Castellano (2015) noticed that representatives respond decidedly to five center aspects: expertise assortment, task character, task importance, independence, and criticism. He further expresses that there is proof from research that representatives who work in positions high in these aspects show high work inspiration, fulfillment, and participation. All in all, it is vital to take note that the variables that impact worker commitment



change from one locale to another and from one area to another occasionally. The associations actually should distinguish which factors explicitly should be tended to in their particular associations.

**3. RESEARCH OBJECTIVES:**

- To study the impact of artificial intelligence on employee engagement
- To analyze the impact of new generation work practices affecting employee engagement, including pride, emotional connection, advocacy, organizational commitment, intention to stay, and job satisfaction

**4. CONCEPTUAL FRAMEWORK OF THE RESEARCH:**



**Figure 1:** The conceptual framework of the Research.

Figure 1 indicates the conceptual framework of the Research. AI mediated by HR Analytics impacts the variables such as job satisfaction, organizational commitment, advocacy, pride, and work efficiency which impacts employee engagement.

**5. HYPOTHESIS:**

H0: There is no significant relationship between the usage of AI tools and employee engagement

H1: There is a significant relationship between the usage of AI tools and employee engagement

**6. RESEARCH METHODOLOGY:**

**6.1. Data Source:**

A structured questionnaire, interviews, and observation were used to gather primary data from the respondents. The information was gathered using a survey with both closed-ended and open-ended questions. In addition to the primary data gathered, information from websites was also used, including information from numerous research papers and articles as well as business reports.

**6.2. Sampling:**

Working professionals from various organizations in the IT sector, Chennai. Refer to Table 1 for the respondent’s profile. A sample of 400 respondents was taken for conducting the research from leading IT organizations. The study was conducted in Chennai, Tamil Nadu, India. Convenience sampling was used to collect the appropriate data from the respondents. The study has been carried out during the months of December 2022 to January 2023. Regression analysis was used to examine a sample of 400 workers.

**Table1: Respondent Profile**

Gender	Male	Female
Number of participants	250	150
Age Group	21- 50	21- 50
Entry level manager	33	29
Middle-level manager	35	37
Senior level manager	48	35
Non-managerial employees	134	49



Table 1 shows the respondent’s profiles. Employees from various managerial levels made up the sample of 400 participants with a split of 250 males and 150 females ranging in age from 21 to 50.

**6.3. Data Analysis:**

To assess the employee’s usage of the AI tools, a 7-item questionnaire was created. Confirmatory factor analysis was used to prove the questionnaire’s validity. The result of the calculation was an alpha reliability score of 0.841. Employee Engagement was assessed using a 26-item scale that Lather and Jain (2014) developed. The measure comprised six components for measuring employee engagement: pride, emotional connection, advocacy, intent to stay, organizational commitment, and job satisfaction. Job satisfaction (.740), organizational commitment (.857), advocacy (.821), pride (.881), intention to stay (.805), and emotional connection (.807).

**7. RESULTS AND DISCUSSION:**

For a variety of aspects of employee engagement across the entire sample, correlation coefficients were computed. Refer Table 2.

**Table 2: Artificial intelligence and various employee engagement factors: A Pearson Correlation**

	AI	Sig
Job Satisfaction	0.488	.000
Organizational Commitment	0.489	.000
Advocacy	0.593	.000
Pride	0.635	.000
Intent to stay	0.503	.000
Emotional Connect	0.526	.000
Employee Engagement	0.532	.000
Productivity	0.637	.000
Work efficiency	0.485	.000

**Interpretation of Table 2:**

Employee engagement, job satisfaction, advocacy for the company, pride in work, and plans to stay with the company and every other variable are all favorably correlated with Artificial Intelligence. Refer Table 2

**Table3: Factors Influencing Employee Engagement: A Regression Analysis of Artificial Intelligence**

	f.(Sig.)	R Square	Adjusted R Square	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
				B	Std. Error	Beta		
Job Satisfaction	264.836 (.000)	.627	0.174	0.926	0.026	0.537	16.237	.000
Organizational Commitment	173.284 (.000)	.284	0.274	0.728	0.094	0.238	16.373	.000
Advocacy	162.73 (.000)	.275	0.275	0.832	0.926	0.374	10.937	.000
Pride	163.259 (.000)	.652	.763	0.863	0.025	0.375	18.263	.000
Intent to stay	158.892 (.000)	.275	.375	0.725	0.074	0.486	18.367	.000
Emotional Connect	173.83 (.000)	.375	.375	0.526	0.036	0.275	10.376	.000
Employee Engagement	184.73 (.524)	.254	.536	0.026	0.035	0.327	12.735	.000
Productivity	173.62	.285	.655	0.762	0.036	0.378	19.353	.000
Work efficiency	284.78 (.173)	.283	.377	0.825	0.036	0.275	19.367	.000



### **Interpretation of Table 3:**

Employee engagement indicators were regressed with respondents' usage of Artificial Intelligence scores. According to the findings, the usage of Artificial Intelligence has a considerable impact on workers' satisfaction on the job, accounting for a 45.6% (Adjusted  $R^2=.174$ ) shift in satisfaction levels. This allows businesses to put money into artificial intelligence technologies to boost employee satisfaction on the job. Similarly, artificial intelligence had a large effect on organizational commitment, accounting for 13.7 percent of the variance (Adjusted  $R^2=.274$ ), advocacy, at 22.1 percent, pride, at 25.2 percent, and intent to stay, at 25.5 percent (Adjusted  $R^2=.275$ ) (refer Table 3).

When the AI score was regressed against the overall employee engagement score, a 36.4% contribution from AI was found (Adjusted  $R^2=.358$ ), making it clear that AI has a substantial impact on employee engagement. In other words, by investing in the right Artificial Intelligence software, companies may increase employee engagement.

### **8. LIMITATIONS:**

There are four major limitations in this study that could be addressed in future research.

- There is a lack of adequate research studies on the topic
- Time constraints
- This study examines the perspectives of employees who have used AI technology only in developed IT organizations
- The study was limited to IT businesses in Chennai, Tamil Nadu

### **9. AREA FOR FUTURE RESEARCH:**

- As this technology is gradually transforming management styles, various start-up businesses may be planning to implement AI technology. Hence, future research could explore whether start-up businesses hold a different perspective in defining responsible AI attributes
- Usage of AI in other sectors needs to be explored

### **10. RESEARCH FINDINGS AND SUGGESTIONS:**

The findings show that AI significantly improves employee performance and workplace engagement. Positive change management helps to moderate the impact of AI on worker productivity and engagement. The study shows that AI practices significantly impact various employee attitudes and behaviors, including job satisfaction, loyalty to the company, intentions to remain and advance there, and feelings of pride in one's work. AI-powered wellness programs can improve employee well-being (Aon Hewitt, 2018). A study by Aon Hewitt found that organizations using AI-powered wellness programs reported improved employee well-being and engagement. Consequently, we reject the invalid speculation and acknowledge the elective theory. According to experts, firms can utilize robotic automation to automate routine rules-based business operations, freeing up business users' time to focus on customer service or other higher-value tasks (Clint Boulton, 2018). AI-powered tools can provide personalized engagement strategies by analyzing employee data, such as job satisfaction, workload, and stress levels. By understanding the unique needs and preferences of each employee, organizations can create targeted engagement initiatives that are more effective in improving employee satisfaction and well-being. Employees with a high level of engagement are generally high performers and exhibit a strong rational commitment (Krishnan . L.R.K et al, 2012).

### **11. CONCLUSION:**

AI in HR can replace repetitive and tactical tasks like transitional personnel duties, frequently asked questions by employees, or automatically communicating with internal candidates and employees in a timelier, consistent manner. The utilization of computerized equipment in the working environment goes from the most fundamental innovation, like cell phones for distant executives, for handling and picturing data to the utilization of expanded reality, human-machine collaboration, data handling, and further developed cloud arrangements, man-made reasoning, and robots in business processes (Fischer and Pohler, 2018). Furthermore, this study also reveals intriguing data regarding the crucial part that digital plays in undermining the impact that responsible AI signals have on engagement.

Representatives appear to more participate in their work when an association puts forth extraordinary attempts to raise representative commitment through the mindful execution of mechanical frameworks fuelled by artificial intelligence, which will prompt better conduct results regarding artificial intelligence utilization. AI has been found to be effective in improving employee engagement and motivation. For example, a study by Deloitte found that gamification, when combined with AI, led to a 34% increase in employee engagement and a 33% increase in



productivity (Palmer D et al.,2012) Dedicated employees are more likely to work for companies that care about their growth. We can therefore argue that artificial intelligence is one of many tools that can be used to boost output and employee engagement at work.

## 12. MANAGERIAL IMPLICATIONS:

The results of this study make it abundantly evident that managers can boost employee engagement by pursuing the following measures:

- Managements should focus on implementing AI tools for enhancing productivity and performance
- Leaders must ensure that employees of the organization receive training on AI and other technological tools should be used
- For businesses to reap the full benefits of AI, the leaders should explore the use of AI and ML for enhancing the value of employees of the organization

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