A Study On Impact Of Artificial Intelligence In Work And Enhancement Of Employee Engagement

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Abstract

Artificial Intelligence (AI) plays a pivotal role in modern companies, transforming traditional business landscapes and driving innovation across various industries. Its applications range from streamlining operational processes to enhancing decision-making and employee experiences. In operations, AI optimizes efficiency through automation, reducing costs and minimizing errors. Moreover, AI-driven analytics enable companies to extract valuable insights from vast amounts of data, facilitating informed decision-making. In employee interactions, AI-powered chatbots and virtual assistants enhance user experiences by providing instant and personalized support. Companies also utilize AI for predictive analysis, helping them anticipate market trends and adapt strategies accordingly. Overall, the integration of AI in business operations not only enhances productivity but also fosters a competitive edge in the dynamic and rapidly evolving market. The emerging knowledge economy and technological interventions are changing the existing job profiles, hence the need for different skillsets and technological competencies. The organizations thus need to deploy strategic manpower development measures involving up-gradation of skills and knowledge management. Inculcating requisite skills requires well-designed training programs using specialized tools and virtual reality (VR). In addition, employees need to be supported in their evolving socio-technical relationships, for managing both positive and negative outcomes

Keywords: Artificial Intelligence, Employee engagement, Satisfaction.

Introduction

The impact of Artificial Intelligence (AI) on employee engagement is multifaceted, revolutionizing the way organizations interact with their workforce. AI-driven tools and

platforms have the potential to enhance employee engagement by automating routine tasks, allowing workers to focus on more meaningful and strategic aspects of their roles. Intelligent chatbots and virtual assistants can provide real-time support, answering queries, and addressing concerns promptly, thereby improving overall employee experience. AI-powered analytics enable companies to gather insights into employee performance, preferences, and sentiments, facilitating more personalized and targeted engagement strategies. Moreover, AI algorithms can assist in talent management by identifying skills gaps and recommending relevant training opportunities, fostering continuous professional development and job satisfaction. However, the impact of AI on employee engagement also raises ethical considerations, such as the need for transparency and fairness in the deployment of AI technologies, to ensure that employees feel valued and trust the evolving workplace landscape. Balancing the advantages of AI with ethical considerations is crucial in maximizing its positive impact on employee engagement.

Artificial Intelligence (AI) has had a profound impact on reducing workload across various industries, offering automation and efficiency that significantly streamline tasks and processes. One of the primary ways AI contributes to workload reduction is through task automation. Repetitive and time-consuming tasks, such as data entry, document sorting, and basic employee inquiries, can be delegated to AI systems, allowing employees to focus on more complex and value-added aspects of their roles. Machine learning algorithms within AI systems can learn from patterns and optimize processes over time, further enhancing efficiency. Additionally, AI-driven technologies enable predictive maintenance in industries like manufacturing, identifying potential issues in machinery before they occur. This helps prevent downtime and reduces the manual effort required for reactive maintenance. In data analysis, AI tools can quickly sift through vast amounts of information, extracting insights and trends far more rapidly than human counterparts. This not only accelerates decision-making processes but also minimizes the cognitive load on employees. However,

it's essential to acknowledge that while AI reduces certain types of workloads, it may also create new tasks related to the management and oversight of AI systems. Striking a balance between leveraging AI for efficiency gains and ensuring proper human oversight is crucial for realizing the full benefits of this technology in workload reduction.

Review of Literature

The term AI, or artificial intelligence, has been defined as a system's capacity to learn and interpret information from digital data (Elish and Boyd, 2018). Scholars suggest that AI has the potential to enhance employees' intelligence, enabling them to understand and navigate complex situations more effectively. By offering various alternative solutions, AI facilitates decision-making processes (Bader and Kaiser, 2019). This support empowers employees to develop their creative skills while delegating routine tasks to machines. Global businesses with skilled personnel anticipate multifaceted benefits from AI (Hsieh and Hsieh, 2003; Liu et al., 2020). Various sectors, including hospitality and tourism, have experienced significant advancements in AI, robotics,

and automation. These technological interventions have influenced essential management tasks and daily operational challenges in the hospitality sector (Syam and Sharma, 2018). Deployments of AI in areas such as streamlining processes, concierge services, guest registrations, bartending, and virtual voice assistance have become common (Kuo et al., 2017; Makridakis, 2017). In airport management systems, AI has automated tasks at traveler information desks, allowing service providers' employees to focus on more meaningful employee interactions. AI contributes to improved organizational efficiency, quality, employee satisfaction, and return on investment (Sun, 2019). AI's applications extend to product inspection, enterprise resource planning, and employee review analysis (Wang et al., 2019; Singh and Tucker, 2017). AI algorithms play a pivotal role in guiding product development, process management innovations, and adapting human resource allocation based on consumer needs (Sun, 2019). The insights provided by AI algorithms drive employee orientation and customization, giving companies a competitive edge and enhancing employee experiences

(Grover et al., 2020). Another critical application of AI is in supply chain management, optimizing coordination and information sharing (Gupta et al., 2020; Bag et al., 2021c, d). Efficient supply chain operations focus on meeting employee needs and minimizing budgeted costs, such as procurement costs and resource utilization (Muggy and Stamm, 2020). AI algorithms also aid in launching new products by understanding employee needs and preferences in the downstream supply chain (Grover et al., 2020). Despite the various suggested uses of AI, the prevailing belief is that a symbiotic relationship between employees and AI algorithms is essential for successful deployment. The widespread adoption of AI and big data analytics has transformed operations management across sectors, from healthcare to manufacturing and retail (Panch et al., 2018; Dogru and Keskin, 2020). AI is seen as a superior technological intervention that enhances creative thinking, context awareness, reasoning ability, communication ability, and self-organization ability (Eriksson et al., 2020). The combination of AI, big data, and robotics is considered the

foundation of the fourth industrial revolution (Grover et al., 2020). The goal of these technological interventions is not to replace human resources but to complement and augment human intelligence and knowledge (Jarrahi, 2018).

Research Methodology

The researcher has adopted descriptive research design for the present study. The researcher has adopted convenient sampling method. The researcher has selected 220 respondents from the various fields who adopted AI in their companies. The researcher has selected respondents from the Chennai District. The researcher has used Kruskal Wallis and SEM model for the analytical part of the study.

The researcher has questioned the defendants to know their level of perception towards the Artificial Intelligence. The researcher has classified the statements into the following two heads.

For Reducing Work Load

The AI helps to the employees in number of ways, especially reducing work load. The researcher has analysed the impact of AI with the following variables like reduced work load, job

insecurity, job complexity, invasion of personal life, uncertainty, role of ambiguity, digital overdependence.

Enhancing Employee Engagement

The AI adoption helps to the company for enhancing employee engagement like flexibility and autonomy, Creativity and innovation, Transparency of information, enhanced of decision making, better work life balance, Collaboration of carrier collaboration.

The researcher has asked the above questions to the respondent with the help of five-point scale. The researcher has total the value of the variables and take it as dependent variable. The following hypotheses were framed by the researcher.

KRUSKAL WALLIS TEST

Ho: There is no sig. relationship amongst the selected demographic variable and their perception towards the Artificial intelligence

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GENDER AND PERCEPTION

T test					
Level of Opinion	Gender	N	Mean	T	Sig.
Reduced Work Load	Male	120	2.22	-1.112	.117
	Female	100	2.51	-1.132	
Employee Engagement	Male	120	2.68	0.552	.000
	Female	100	2.1	0.565	

The above table shows that independent sample t test analysis indicates gender and perception towards Artificial intelligence. The Null Hypothesis is rejected in the case of Employee enhancement and the Hypothesis is accepted in the reduced work load. Hence there is no sig. relationship amongst gender and reduced work load and there is a sig. relationship amongst gender and their perception towards artificial intelligence.

SEM

Instrument development

The scale instrument consists six dimensions namely Economic Aspects, Benefit Aspects, Service quality aspects, Awareness towards AI, Satisfaction and Problems towards AI in accessing Artificial Intelligence.

- Economic Aspects (increased productivity, cost, savings, new job creation, improved decision

making, personalization, and enhanced safety)

- Benefit Aspects (Reduction in Human Error, Zero Risks,24x7 Availability, Digital Assistance, New Inventions, Unbiased Decisions, Perform Repetitive Jobs)

- Service Quality Aspects (Efficiency, Security, Availability, consequential performance, Access to human assistance, Anthropomorphism)

- Awareness Aspects (online product recommendations, facial recognition software, chatbots, Maintenance, Specifications, Interaction, Usage)

- Satisfaction (Economic aspects, Benefit aspects, Service quality Aspects, Usage, Reducing work load)

- Problems (Perfection, Flexibility, Evolution, Reducing Employment opportunity, Training and development, Adaptability, Suitability)

Each dimension measured on a five-point likert scaling in which strongly agree to strongly disagree. The researcher has pre-planned to organize the scale instrument section in appropriate manner. The internal reliability of the item was verified through Cron-bach alpha test. As the results of alpha test for all the construct is more than 0.7, therefore the measurement model was deemed to have adequate reliability.

Hypotheses Framed:

H_o1: There are no problems faced by the employees due to the impact of the Intelligence effectiveness

H_02: The artificial Intelligence effectiveness always leads to employee satisfaction

H_03: The problem faced by employee's direct impact on their satisfaction towards AI

Validity of the model

The construct validity of the model evaluated through confirmatory factor analysis, which is presented in previous chapters. The construct achieves the critical fit indices such as CMIN>3, GFI<0.9.CFI<0.9 and RMSEA >0.05. The structural equation modelling graphics presented in the figure. Table presents the standardized co-efficient weights of effectiveness of artificial Intelligence impact on

employee satisfaction with mediation of problems in accessing artificial Intelligence construct. All the observed variables are statistically significant at 0.01 per cent significant level except artificial Intelligence impact on employee satisfaction. The SEM model graphical output presented in the following figure 1.
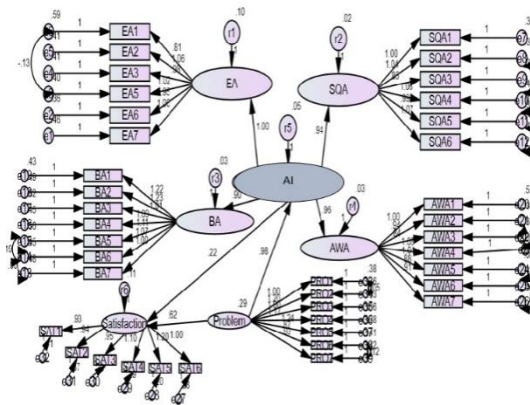

Figure 1 Effectiveness of artificial Intelligence impact on employee satisfaction with mediation of problems in accessing artificial Intelligence construct

(CMIN>3, GFI<0.9.CFI<0.9 and RMSEA >0.05)

Standardized co-efficient Weights

			Estimate	S.E.	C.R.	P
Effectiveness of Artificial Intelligence	<---	Problem	.979	.103	9.493	***
Satisfaction	<---	Effectiveness of Artificial Intelligence	.217	.181	1.199	.231
Satisfaction	<---	Problem	.616	.201	3.057	.002

Source: AMOS text output

The Results of Hypothesis 1

From the above, it is clear that problem faced by the respondents and artificial Intelligence, co-efficient value is .979, which means that problems goes up by 1, the effectiveness of artificial Intelligence goes down by .979. The p value of the construct is high than the critical value of p 0.05, therefore the researcher framed hypothesis that the problems faced by employees positively impact and affect the artificial Intelligence effectiveness is dismissed. The present study confirms that there is a positive impact among the employee due to the artificial Intelligence effectiveness. Hence, the problems faced by the respondents directly associated with artificial Intelligence initiatives. From the present analysis the researcher suggests that all the companies in-order to improve and offer quality service through artificial Intelligence programs and should analyse periodically. The

employers should not stop their work with implementation. They have to update everything. The employers should conduct research and ask opinion from the employees regarding the artificial Intelligence programs implemented by the employers. According to the results the employers should take further steps to improve their services.

The Results of Hypothesis 2

Therefore, the researcher has formed "The artificial Intelligence effectiveness always leads to employee satisfaction". The co-efficient value of artificial Intelligence effectiveness is 0.22, which means artificial Intelligence effectiveness goes up by 1, the employee satisfaction goes up by 0.22. The p value of the construct is not significant and therefore the researcher framed hypothesis that "The artificial Intelligence effectiveness not always leads to employee satisfaction" is acknowledged.

The Results of Hypothesis 3

Therefore, the researcher has formed the hypothesis "The problem faced by employees' direct impact on their satisfaction". The co-efficient value of problems faced dimension is 0.62, which means problems goes up by 1, the level of satisfaction up by 0.62. The p value of the construct is significant and therefore the researcher framed hypothesis that "The problem faced by employees' direct impact on their satisfaction" is acknowledged. Hence, the researcher concluded that the problems faced by the respondents has direct impact on their satisfaction towards artificial Intelligence effectiveness.

Conclusion

Technology interventions and HR components and their roles in an organization have a dynamic and

reciprocal relationship. These connections can be clearly made sense of by such top to bottom subjective investigations. Through this exploratory review, we investigate the effects of simulated intelligence reception inside firms, explicitly zeroing in on the workers. Noticeable unfavourable effects of the reception of artificial intelligence like the expected gamble of information security breaks, radical authoritative changes coming about because of computerized changes and occupation hazard and uncertainty frequently inconvenience the representatives. Concerns encompassing predispositions in navigation and deception related difficulties were additionally featured. The adverse consequences highlight a few useless hierarchical viewpoints. This study adds to the literature on technostress and opens up new possibilities for future research. However, positive effects like improved job performance as a whole, flexibility and autonomy at work, creativity and innovation are also identified. Further factors adding to technostress among representatives including work over-burden, interruption of balance between serious

and fun activities, work uncertainty and intricacy were likewise distinguished. Such a review gives a complete comprehension adding to the significant existing writing on innovation sending and interchange of hierarchical jobs and construction. The review is one of its sorts to zero in on the unfriendly results of simulated intelligence reception while zeroing in on representatives of firms undertaking projects and computerized change.

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