



The Impact of Artificial Intelligence on Employee Engagement in the Indian Retail Sector: An analytical and conceptual study

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Abstract: *The Indian retail industry is one of the most rapidly growing industries not only in India but also across the globe. In India, the retail sector contributes 10% of the nation's GDP and provides employment to approximately 8% of the country's workforce. Artificial Intelligence is changing the dynamics of the Indian Retail Industry. This paper tries to study the dimensions of AI implementation and their impact on employee engagement in the Indian retail industry. This paper proposes a framework that establishes a link between AI adoption and employee engagement in the Indian retail sector, in the presence of mediators such as workload reduction, AI literacy, and the meaningfulness of work, and moderators like leadership quality and organisational culture. A detailed study of existing literature and theories in the relevant field has been done in order to propose the framework. This conceptual framework is developed after synthesising concepts of pre-existing theories like COR theory, PERMA model, Agency Driven Labour Theory, etc. This study aims to guide retail firms in implementing AI tools with minimal resistance from the workforce, thereby ensuring better employee engagement and performance. This conceptual study can also act as a guide for future empirical research on the topic.*

Keywords: *Indian retail, Artificial Intelligence, Employee engagement, Employee performance, AI Implementation, AI adoption, Conceptual framework.*

1. INTRODUCTION

The Indian Retail sector is one of the world's most rapidly evolving sectors. It contributes close to 10% to the Indian GDP and gives employment to nearly 8% of the Indian workforce. The Indian retail industry is growing at a fast pace, and as per the report of India Brand Equity Foundation (IBEF), it is expected to cross the 1.75 trillion USD mark by 2026. The reason behind this growth is primarily due to factors such as increased urbanisation, increased use of digital technologies, internet penetration, and increased consumer spending. These factors have transformed Indian retail from a traditional format into a highly technological and customer-centric format (Singh and Kaur, 2020). The Indian retail sector has transformed into a dynamic mix of traditional and modern retail formats (Deloitte, 2020). With the help of AI, retail companies can automate their processes, analyse large amounts of customer data and deliver customised services to customers (Kumar et al., 2021). The use of AI technologies, such as predictive analysis, machine learning, and Natural Language Processing (NLP), has increased in various retail aspects, including marketing automation, demand forecasting, customer service, and inventory management (Chatterjee et al., 2020; Huang & Rust, 2021). Artificial Intelligence enables retailers to anticipate changing customer needs and deliver customised offerings. This, in turn, increases customer satisfaction and engagement (Grewal et al., 2020). Employee engagement results in increased organisational performance, lower employee turnover, increased well-being of employees, and higher customer satisfaction rates (Bakker & Demerouti, 2008). As AI systems rapidly take over repetitive and operational tasks, employees are left to do complex tasks which require judgmental skills. This transformation and AI adoption can either enhance employee engagement or diminish it based on employee perception. Employee's perception on the adoption of



AI systems plays a very significant role in shaping their engagement levels (Singh et al., 2024). In spite of the fact that the Indian retail industry and AI adoption in this industry are growing at a fast pace, there has been limited study on the impact of Artificial Intelligence on employee engagement in the Indian context. This study tries to explore a conceptual framework that defines the role of AI adoption on employee engagement in the context of Indian retail market.

2. Literature Review:

2.1 Artificial Intelligence: The term Artificial Intelligence was first formally introduced in 1956 by John McCarthy. Artificial Intelligence can be defined as the science and engineering of making intelligent machines (McCarthy, 2007). Russell and Norvig (2021) defined Artificial Intelligence as the study of agents that receive directives from the environment and perform actions based on them. According to Russell and Norvig, Artificial Intelligence can be classified into two categories i.e. systems that think and act like humans, and systems that think and act rationally. According to Russell and Norvig, this framework is the combination of both philosophical and engineering approaches and serves as the basis of modern AI studies. Nilsson (2010) suggested that Artificial Intelligence has a multidisciplinary nature. It is an intergration of multiple fields of knowledge, such as psychology, computer science, linguistics, philosophy, neuroscience, and Mathematics. Nilsson observed that Artificial Intelligence is not just about replicating intelligence but also about understanding its nature. As per European Commission (2021), AI can be defined as a system that is exhibiting intelligent behaviour to achieve specific goals by analysing its environment and taking actions with a certain degree of autonomy. Artificial Intelligence integrates technologies like machine learning, natural language processing (NLP), and robotics that replicate cognitive functions (Davenport & Ronanki, 2018). Kaplan & Haenlein (2019) defined Artificial Intelligence as a system's ability to interpret data, to learn from that data and use it to achieve specific goals using flexible adaptations. In 2019, the Organisation for Economic Co-operation and Development (OECD) defined AI as a machine-based system capable of predicting, recommending, or making decisions that influence real or virtual environments to achieve human-defined objectives. AI in retail integrates machine learning, natural language processing and data analytics to optimise the operations of a retail store and to increase customer interaction (Chatterjee et al., 2020). A study conducted by Salesforce (2024) reported that 57% of Indian consumers prefer to use AI tools for basic inquiries. However, for the complex issues, they still prefer human interaction.

2.2 Employee engagement: Kahn (1990) popularised the concept of employee engagement. He referred to engagement as the degree to which individuals are psychologically involved in their work. Schaufeli et al. (2002) worked on the theory of Kahn (1990) and presented a more detailed and structured definition of employee engagement, where they defined it as an employee's positive and fulfilling state of mind that is characterised by dedication, vigor and absorption. Bakker and Demerouti (2007), in the JD-R model proposed by them, suggest that job resources increase employee engagement when job demands are high. Resources reduce strain and help employees achieve their goals. Hackman and Oldham (1976) proposed that varieties of tasks, task significance, feedback and autonomy are the five core job characteristics that influence psychological states of employees and lead to higher motivation and engagement.

2.3 Artificial Intelligence and its interaction with Indian retail employees: Technology Acceptance Model (TAM) proposed by Davis (1989) states that perceived usefulness and perceived ease of use are the two factors that determine users' adoption of technology. Indian retail employees are more likely to use AI tools if they find them helpful and easy to use. In the retail industry, maintaining consistent employee engagement is very challenging due to factors such as repetitive tasks, high turnover, and heavy operational pressure (Memon et al., 2019). Artificial Intelligence can help eliminate repetitive tasks and reduce operational pressure. This, as a result, increases employee engagement. Study suggests that AI literacy acts as a mediator when we define the relationship between AI adoption and employee engagement (Zhang et al., 2024). AI is transforming the Indian retail industry by automating the recruitment process, enabling personalised training, and providing predictive insights for employee well-being. Saxena and Mishra (2025) stated that cost, readiness of employees and lack of technological infrastructure act as barriers to AI adoption in the Indian Human Resource systems.

3. Research Methodology

This conceptual paper focuses on identifying and proposing a suitable framework/model that establishes the link between AI adoption and employee engagement in reference to the Indian retail industry. Relevant papers from reputed databases were selected and studied. The research process involved in the study was:



- A. Search of existing literature already done in this field.
- B. Defining the objective of research
- C. Extraction of literature
- D. Detailed analysis of literature
- E. Developing a conceptual model.

Based on a detailed study and analysis of the literature, six pre-existing theories that establish a link between Artificial Intelligence and Employee engagement were identified and carefully analysed. The findings of the analysis are displayed in Table 1 below.

3.1 Research objectives:

This paper tries:

- To study available literature on Artificial Intelligence and employee engagement with reference to the Indian Retail Industry
- To propose a conceptual framework on how the adoption of AI technologies influences various dimensions of employee engagement.
- To identify the moderating and mediating factors for the adoption of AI to enhance employee engagement in the Indian context.
- To identify the prevailing opportunities and challenges for Indian retailers in adopting AI technologies.
- To provide retail managers with in-depth insights into AI system adoption and propose a framework for future empirical research.

4. Analysis and Interpretation:

Based on a detailed study and analysis of six pre-existing theories related to the AI adoption and employee engagement, the following is summarised below:

Framework/Theory /Model Name	Proposed By	Key Idea proposed	Mediator	Moderator	Insight regarding AI adoption and employee engagement
Conservation of resource theory (AI application)	Original theory proposed by Hobfoll (1989); Applied by Marvi et al. (2025)	People generally prefer to conserve time and energy. AI reduces workload and frees up time and energy.	Autonomy and workload reduction	AI literacy	AI reduces workload, and when powered with AI, resources can boost engagement and productivity.
PERMA (Positive emotions, Engagement, Relationships, Meaning & Accomplishment) Model (AI application)	Original theory proposed by Seligman (2002): Applied by Kowalski et al. (2024).	Humanistic work design focusing on Positive emotions, Engagement, Relationships, Meaning,& Accomplishment leads to employee well-being. AI can act as a facilitator or a stressor in this context.	Job meaningfulness	Job role, Leadership style	An AI system that supports employees' purpose inculcates a sense of meaningfulness and accomplishment, which improves psychological well-being and engagement.
Agency Driven Labor Theory (ADLT)	Ganuthula (2024)	In the AI context, the value of human labor lies in judgment, direction and workflow design.	Employee agency	Task complexity	In AI-integrated workplaces, human work shifts from execution to strategising. It increases employee engagement.



AI-Mediated Exchange Theory (AI-MET)	Xiao Ma & Taylor Brown (2020)	AI impacts social exchange and workplace relationships by influencing how people interact and share information.	Perception of fairness and trust in AI	Communication norms and interdependence of teams	AI influences social collaboration, which in turn results in building interpersonal trust and increased employee engagement.
Change Leadership & AI Integration Model	Santoso, P., & Wulandari, R. (2023).	Leadership quality acts as a moderator on the impact of AI on performance and engagement.	Role clarity and employees' openness to change	Leadership style	Strong leadership style leads to an amplified positive engagement effect of AI.
AI-Supported Culture & Leadership Framework	Nguyen, T., et al. (2022).	AI-aligned leadership and organisational culture increase collaboration, trust and employee morale.	Employee's sense of belongingness and organisational identification	Cultural Alignment and support from leadership	In organisations, an AI supportive work culture leads to increased morale, teamwork and employee engagement.

Table 1: Analysis of 6 different models on AI and employee engagement (Source: created by author).

Interpretation:

- Conservation of resource theory: Conservation of resource theory was first proposed by Steven Hobfoll in 1989. Originally, this theory states that individuals are primarily motivated to build, protect, increase and maintain resources. When they lose these resources or are threatened regarding the same, it can cause stress. Marvi et al. (2025) applied this theory from an AI perspective, noting that AI can reduce the workload of people and help them save their resources. Thus, the application of AI can lead to increased employee engagement.
- PERMA model: The PERMA model, proposed by Seligman (2002), states that Positive emotions, Engagement levels, Relationships, Meaning, & Accomplishment are the five main components of an employee's well-being. Kowalski et al. (2024) studied the theory in the AI context and observed that if an AI system supports an employee's purpose and is perceived positively by the employees, it can inculcate the feeling of meaningfulness and accomplishment in employees and result in increased engagement.
- Agency Driven Labour Theory (ADLT): ADLT, proposed by Ganuthula (2024), states that in the AI era, the value of human work is derived from agency, i.e., the ability to make judgments, provide directions, and create an effective workflow design. At workplaces where AI systems are used, human labor generally shifts from executing to strategising. This results in increased employee engagement.
- AI-Mediated Exchange Theory (AI-MET): AI-MET theory is an extension of Social Exchange Theory proposed by Blau (1964), which states that people form relationships and maintain them after a cost-benefit analysis. Xiao Ma and Taylor Brown (2020) studied the Social Exchange Theory, placing AI as a mediator, and proposed the AI-MET theory, which states that AI systems can influence how people interact with each other and impact the social exchange and relationship between employees. The application of AI can increase social collaboration between employees and lead to increased interpersonal trust and employee engagement.
- Change Leadership & AI Integration Model: This model, proposed by Santoso, P., & Wulandari, R. (2023), states that organisations with an effective leadership structure and style are more likely to achieve success in AI adoption—leadership style and quality act as a moderator in AI applications. A strong leadership style leads to easy adoption of AI systems and increased employee engagement.
- AI-Supported Culture & Leadership Framework: This Framework, proposed by Nguyen, T., et al. (2022), states that an organisation's culture supported by AI increases trust and collaboration among employees and boosts employee morale and engagement.

5. Conceptual model:

Based on the study of existing literature and theories related to AI adoption and employee engagement, a conceptual model, along with its mediating and moderating factors, is proposed in Figure 1 below:

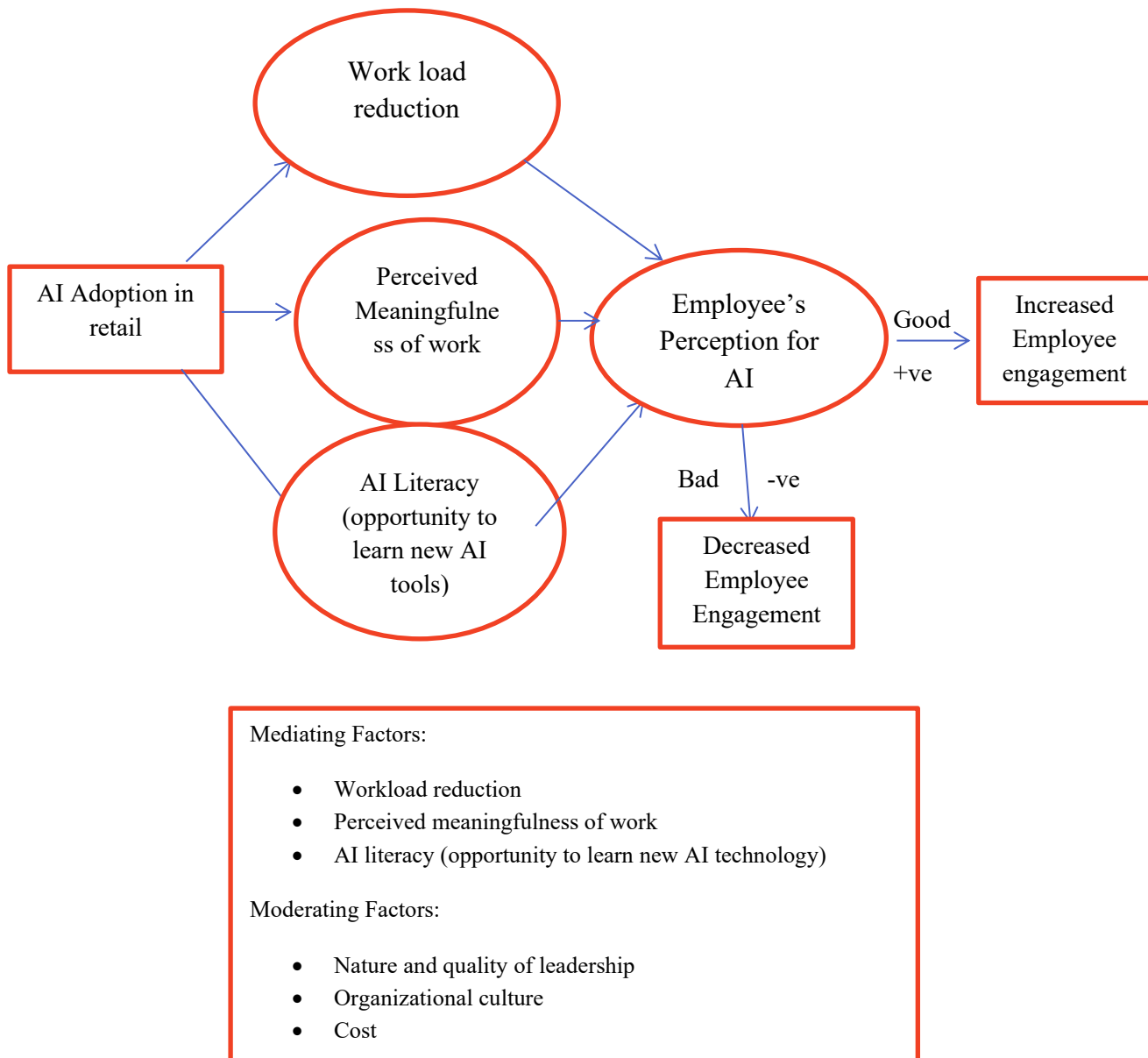


Figure 1: Conceptual framework on AI adoption and its impact on employee engagement (Source: compiled by author)

6. Discussion:

The proposed conceptual model integrates different theories based on the implementation of AI and employee engagement. In the proposed conceptual model, Workload reduction (Conservation of Resource Theory), Perceived meaningfulness of work (PERMA model) and AI literacy (Zhang et al., 2024) work as a mediator, whereas nature and quality of leadership (Change Leadership & AI Integration Model), organisational culture (AI-Supported Culture & Leadership Framework) and cost act as a moderator.

The conceptual model proposes that AI adoption in retail may be perceived as positive or negative based on mediators (workload reduction, perceived meaningfulness of work, and AI literacy). Positive perception leads to higher employee engagement and vice versa. Suppose employees perceive that adopting an AI system reduces their workload. In that case, they are likely to be engaged because they are doing meaningful work, removing redundant tasks and gaining opportunities to learn.



7. Practical Implication

This conceptual study is significant and has an important implication for understanding the impact of AI adoption on employee engagement. This conceptual model suggests that the Indian retail managers may consider the following while adopting AI systems:

- Have a clear and transparent communication with the retail employees about the advantages of the AI system (especially with respect to the mediating factors).
- The AI system to be adopted should not be overly complicated to use, as this may turn AI literacy into a moderator instead of a mediator.
- Develop an organisational culture aligned with AI implementation.
- Leadership style should be supportive towards AI implementation.

8. Conclusion

The use of Artificial Intelligence is significantly increasing in the Indian retail sector. AI is considerably reducing the workload of Indian retail employees by reducing redundant operational tasks and leaving them with tasks that require complex analysis and judgment skills. This AI transformation has the capacity to either increase employee engagement and involvement or decrease it. The impact of AI adoption on employee engagement depends mainly on how an employee perceives it. This study aims to establish a link between AI adoption and mediating factors (workload reduction, perceived meaningfulness of work, and AI literacy) and their impact on employee perception and engagement. Moderating factors like nature and quality of leadership, organisational culture and cost are also considered in the study. This study concludes that when the benefits of AI adoption in the retail industry are clearly communicated to employees, it creates a positive perception in their minds regarding AI adoption and increases their engagement level.

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