International Journal of Commerce and Management Research
www.managejournal.com
ISSN: 2455-1627
Received: 11-02-2025, Accepted: 12-03-2025, Published: 28-03-2025
Volume 11, Issue 3, 2025, Page No. 49-57

AI-powered innovations in retail marketing: A review on Indian readiness and swot analysis

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Abstract
Drawing upon an extensive review of existing literature, this paper provides a comprehensive examination of the multifaceted impacts of artificial intelligence on the retail market. It underscores AI's transformative influence on customer engagement and operational efficiency. Indeed, the integration of Artificial Intelligence (AI) into retail marketing heralds a profound and revolutionary shift within the industry. This transition brings forth a plethora of opportunities and challenges for both retailers and consumers alike. Retailers must evaluate their strengths and weaknesses in light of these sectoral advancements to ensure they embrace innovation adequately. Therefore this paper is focused on examining readiness of Indian retail market of via SWOT analysis. We've also discussed recent innovative strategies that organizations can employ to gain a competitive edge through IoT applications.

Keywords: Retail market, Smart retailing, Artificial intelligence, IoT, AR, VR

Introduction

The worldwide retail, industry has extended tremendously inspite of financial disruption caused by pandemic followed by economic slowdown followed by recession. Retail industry was anticipated to develop at CAGR 5.3% by 2023 (Donepudi et.al, 2020a) [9] whereas the actual growth was much beyond it as the Global powers of retailing 2023 reports shows the top 250 companies posting 8.5% year-on-year growth in retail revenue. The emerging countries of America, China, and India and their economies are turning out to be major players in the development size of retail industry all over the world. It hinted towards China's potential to outperform the United States as the world's leading customer by the end of 2025 (Donepudi *et al*., 2020) [9]. Today's digital world is the market of massive competition where retailers need to compete with the internet-based vendors (Ahmed *et al*., 2021; Begum *et al*., 2012; Bynagari, 2015 [2]; Bynagari, 2019; Khan *et al*., 2021; Manavalan, 2016; Paruchuri *et al*., 2021; Neogy & Bynagari, 2018; Manavalan & Ganapathy, 2014). Conventional methods of retailing are in a dire need of groundbreaking innovation to elevate purchasing experience and provide more creative solutions for managing labor, resources, financial aspects and space efficiency (Bynagari & Amin, 2019). The actual challenge here for retailers is to integrate and track these smart objects for further develop proficiency and decrease costs; to upgrade functional performance with real-time data analytics; and at last to adapt change by communicating with users in new ways powered by the innovation of IoT (Manavalan & Bynagari, 2021). In this paper, we attempt to provide a clear understanding in the conceivable role that artificial intelligence and a byproduct of it i.e IoT frameworks could play as a service tool for the retail industry, by basically taking a look at the critical drivers of development inside this industry

To ensure a competitive advantage by adopting emerging technologies, retailers must consider three key elements: (1) improving the consumer experience, (2) reducing costs, and (3) increasing revenues and business profitability (Hetu, 2020). The primary objective of this study is to pinpoint and emphasize the key advantages and obstacles associated with the adoption of AI technologies in the retail sector across the three specified dimensions. The cognitive acquis thus obtained was capitalized by developing a conceptual framework for integrating AI techniques and algorithms in the information systems of companies in the retail sector. In pursuit of this objective, focus has been placed on the designated areas outlined by the following two research questions: (1) "What are the benefits and risks, as perceived from the CECoR perspective, reported by retailers resulting from the implementation of AI?" and (2) "How can this research contribute to supporting the initiation and management of a project aimed at integrating AI technology?".

The study outcomes present the practical benefits and risks linked to AI adoption in retail firms. Through a unique approach involving CECoR analysis across three dimensions and automated customer profile management at general, individual, and contextual levels, original methodologies were applied. These methods facilitated the development of a conceptual framework, offering valuable guidance for implementation teams initiating and managing projects focused on integrating AI with the information systems supporting retail activities.

The article has three main sections. The initial part focuses on elucidating the advantages of incorporating AI in retail, analyzed through the lens of CECoR drivers. Utilizing the same CECoR dimensions, the subsequent section explores the hurdles and potential risks linked to AI implementations. Following this, the second section outlines the research methodology, while the third section is dedicated to presenting the research results, including the CECoR conceptual framework, a scenario exemplifying the practical usage of the CECoR integration architecture, and discussions on risks and practical implementation concerns.

Literature review

There is an upper term - XR - which represents the concepts of AR and VR. There is no agreement as to whether "X"

stands for "extended," "extended," or simply serves as a variable X for "anything" about new and innovative forms of reality. Accordingly, XR is a general term with two independent subcategories, AR and VR. AR is a general term for a continuum from Aided Reality to Mixed Reality (Dwivedi *et al*., 2021). The term "AR Marketing" was coined in response to the utilisation of AR applications in experiential marketing. Although an increasing number of companies are integrating Augmented reality into their marketing campaigns (Dacko, 2017)Although there is no clear definition of AR marketing, when Augmented Reality is used in marketing, it is called "Augmented Reality Marketing" AR marketing is a strategically driven marketing act generally used with other media tools that combine digital information or objects with the perceived physical world in a way that could help businesses achieve their aims and to provide benefits to the consumer (Rauschnabel *et al*., 2019).

AI and Ar in global retail

Giri, C., Jain, S., Zeng, X., & Bruniaux, P. (2019) [11]. The researchers conducted a systematic literature review to address three research questions, analyzing 1019 articles published between 1989 and 2018 from Scopus and Web of Science. The screening process led to 149 relevant articles, which were categorized based on AI methods and F&A supply chain stages to answer the research questions. AI research in the Fashion & Apparel (F&A) industry has grown significantly, with most studies (56%) published between 1989-2018 focusing on AI methods. Despite its popularity, adoption remains limited due to a lack of expertise and skepticism about cost-benefit tradeoffs. Research primarily addresses B2B issues (81%), leaving B2C challenges underexplored. Future focus on B2C, including analyzing consumer behavior and enhancing personalization, is vital. Predominant AI methods include machine learning, expert systems, and image recognition, applied to supply chain stages like production and distribution. Key opportunities lie in design, virtual fitting, trend forecasting, and integrating AI with blockchain and cloud technologies.

Shahriar, Akter. (2022) [19] As per the authors of this research paper AI is transforming the retail industry by improving decision-making, simplifying product discovery, optimizing supply chain management with predictive analytics, and enabling intelligent tracking systems. These innovations are enhancing customer relationships and driving efficiency in the textile and apparel sector. The textile and apparel (T&A) industry is experiencing a shift with the emergence of big data, redefining its relationships with consumers, suppliers, and competitors. Managing complex scenarios, dependencies, and uncertainties has become crucial, requiring the industry to process large volumes of data for better decision-making. AI is proving instrumental across the T&A value chain, supporting areas like product discovery, robotic manufacturing, recommendation systems, quality control, forecasting, and predictive analytics in supply chain management and e-commerce. Insights from a systematic literature review and expert interviews reveal AI's potential to build dynamic capabilities, address challenges, and provide actionable guidance for academia and industry.

Kien, Nguyen., M., Le., Brett, G., Martin., Ibrahim, Cil., Clinton, Fookes. (2022) An efficient store layout plays a crucial role in capturing customer attention, encouraging them to explore more aisles, and increasing exposure to merchandise, which directly boosts sales and profitability. With advancements in Artificial Intelligence, particularly in Computer Vision and Deep Learning, retail stores can now use existing CCTV systems to gather valuable insights into customer behavior and business operations. This research reviews current strategies for store layout design and explores modern AI techniques, proposing an AI-driven framework that leverages CCTV data to analyze, predict, and recommend optimal store layouts for improved performance and customer experience.

Bolesnikov, M., Popović Stijačić, M., Keswani, A. B., & Brkljač, N. (2022). This research examines the attitudes of fashion stakeholders toward AI and its role in promoting sustainability in the fashion industry. While AI's potential in fashion has been explored, this study focuses on analyzing how consumers, industry professionals, and company shareholders view its contribution to sustainable practices. Surprisingly, companies with high revenues showed no greater awareness of sustainability trends, and prior experience with AI did not increase openness to AI-driven apps for sustainable fashion. The study's findings offer a framework to influence key players, showing how AI can encourage consumers to make sustainable choices and help businesses integrate sustainability into their strategies, operations, and marketing. It also identifies milestones for further research on the synergy between AI, sustainability, and the fashion industry, aligned with UN Sustainable Development Goals (SDGs).

Leilei, Zhao., Weiwei, Wu., Minghui, Jiang. (2022) The study applies the Hotelling model to analyze online retailers offering human (NH) and non-human (NN) consultation services in a duopoly market. It finds that human services boost competitiveness in markets where consumers prefer personal interactions but come with higher costs, potentially leading to price increases. Retailers can maximize profits by optimizing service levels, which are influenced by consumer sensitivity to service quality. Human services drive demand but also escalate operational costs, impacting pricing strategies. Additionally, retailers' service choices are shaped by consumer preferences for non-human services, affecting competitors' decisions and overall market dynamics.

Ai and Ar in Indian retail

Retail in India has gone through many variations in its style of business and being attributed by the consumers in various segments since its evolutionary stages. (Dr. Moiz Akhtar, Mr. Shadab Ahmad *et al* 2022) India, like other emerging economies, is witnessing substantial transformations in its retail landscape with the rapid growth of online retail. The market is maturing, with a majority of retailers now concentrating on sustainable growth. The next decade to twelve years will be defining for Indian retail, as organized retail expands further into smaller urban areas and towns. Retailers will place a strong emphasis on enhancing consumer experience, with technology playing a pivotal role in driving sales and enriching the overall shopping journey for customers.

Andrea Sestino (2024) and Chang and Li (2022) in their paper present the challenge of integrating intelligent technologies in luxury shopping contexts: the role of brand personality appeal and consumers' status consumption orientation talks about the question of integrating new

technologies in retail, and specifically in luxury shopping, has become central to businesses today. The combination of new advanced technologies in retail sector makes it possible to identify and assess consumer purchasing behaviors and propose appropriate interactive shopping experiences. Also in order to identify ad hoc communication campaigns and sales strategies that are probably more effective depending on the clientele, becoming both an issue as well as an opportunity.

Kirandeep, Bedi., Monica, Bedi., Ramanjeet, Singh. (2022) [15] This article examines the impact of artificial intelligence (AI) on Indian retail customers, highlighting how technological innovations and effective store design or layout contribute to customer loyalty. The authors conclude that retail organizations prioritizing these factors are more successful in fostering long-term customer relationships. AI has significantly transformed the Indian retail industry by enhancing customer experiences and streamlining processes through automation. However, despite these advancements, the adoption of IT systems in the Indian retail sector remains limited. To remain competitive and build a loyal customer base, retail organizations must focus on integrating technological innovations and optimizing store layouts to improve the overall shopping experience. The need for widespread IT system adoption in the retail sector is critical for driving efficiency, enhancing personalization, and ensuring seamless operations. India must make concerted efforts to address these gaps and embrace technology at scale to unlock the full potential of AI in retail.

Srinivasa, Rao, Dokku., Venkata, Naga, Siva, Kumar, Challa., M., S., Narayana. (2023) In this paper, the authors focus on the impact of AI in retail industry and evaluate the use of AI for order processing, shipping, and inventory management in the retail industry in India. AI is significantly impacting the Indian retail industry by enhancing order processing, shipping, and inventory management. The study indicates that most retail establishments in India are aware of and actively employ AI technologies to improve their operations. Majority aware of AI use in Indian retail sector. AI is beneficial in order processing, shipping, and inventory management.

S., Durga, Rao. (2021) [21] The paper discusses the use of Conversational AI, particularly AI chatbots and Natural Language Processing, in Indian online retail to enhance customer engagement, streamline service delivery, and provide personalized recommendations, while addressing challenges like language diversity and data security. Its findings concluded establishing Conversational AI enhances customer engagement and service delivery, it mentioned challenges which include language diversity, user trust, and data security.

Desti, Kannaiah., R., Shanthi. (2015) [7]. The paper highlights that augmented reality (AR) has significant potential in Indian markets, particularly in Chennai, where consumers show a positive attitude towards AR technology, suggesting it can enhance e-commerce experiences and marketing strategies for both online and offline sales. The most common application of AR is as a virtual changing room as discussed by the authors, e-businesses displaying their products (clothing, accessories) via mobile/web cameras as a 3D projection on a real person.

Abderahman Rejeb, Karim Rejeb & Horst Treiblmaier (2023) in their paper discuss how augmented reality impacts retail marketing from consumer perspective. Academic literature underscores the importance of enhancing consumer experiences, strengthening brand-customer relationships, supporting marketing activities, and promoting marketing competitiveness within the retail sector. In terms of challenges, we recognized technical limitations, consumer-focused hurdles, technological immaturity, and organizational barriers.The study represents one of the first attempts to systematize the existing body of academic knowledge on the applications of AR in retail marketing.Existing literature indicates that prior academic research on AR has predominantly highlighted the particular advantages of this technology for enhancing consumer experiences. However, there has been limited focus on conducting a thorough literature review encompassing studies on AR within retail marketing.

According to BearingPoint (2019) study, there are two broad classifications of emerging AI technologies that enhance Customer Experience (CE): (1) technologies that enable direct interactions with customers, and (2) technologies that facilitate better handling of customer demands and expectations.

Semantic recognition technologies, commonly known as chatbots, enhance the customer experience (CE) by offering 24/7 service, while also reducing the volume of low-value interactions that would typically require human workers. These technologies are rapidly gaining popularity, particularly with the rise of messaging applications. Retail companies are leveraging chatbots to create a more seamless and integrated experience across both online and offline channels.

Research objectives

The objective of this research is to pinpoint the tangible advantages and potential drawbacks arising from the adoption of artificial intelligence (AI) within the retail sector. Furthermore, the goal is to utilize these findings to construct a conceptual model for seamlessly integrating AI technologies into the information systems of retail enterprises. Initially, criteria for selecting relevant sources for analysis were established. The inclusion criteria set were represented by the year of publication of the research materials (after 2010), the language of publication (English) and the field: artificial intelligence or retail. Another criterion was represented by the international databases were the selected papers were indexed: Scopus, Web of Science, Scientific Information Database or EconLit. Also, to capture the concrete results of the implementation of AI solutions in retail, the research area included case studies and reports published by representative actors in this field.

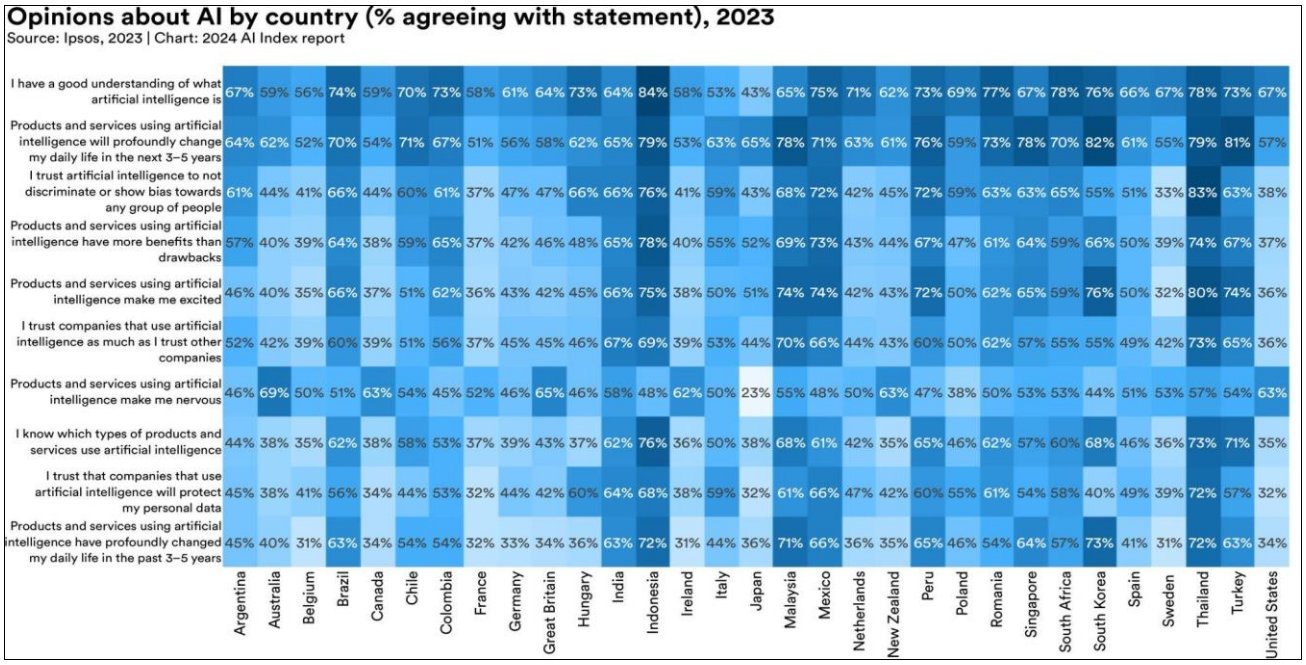
Role of AI in enabling smart retailing experience

As per the results published by Capgemini (2019), 73% of the organizations that implemented AI technologies noticed an increment of about 10% in customer satisfaction. The Capgemini investigation shows that 72% of the surveyed organizations experienced a decrease in the number of customer complaints, and 66% noticed a reduction in the churn rate of the brand. Another study carried out by Futurum Research (2019) foresees a surge in the utilization of AI technologies for purchasing experiences. Thus, 65% of consumers expect to have contact with a chatbot for customer support by 2025, while 81% expect this to happen by 2030. If 47% of surveyed consumers consider that using

an AI assistant, such as Alexa or Siri, can be a good way to interact in assisting customers, 38% admit that it is not easy for them to use or adapt to the technology used by merchants and 53% admit that facial recognition technologies cause them discomfort. According to Servion Global Solutions, a company cited by Microsoft Corp. (2017), by 2025, 95% of customer interactions will be made through AI-assisted channels, and chatbot applications will be key components in assisting the next generation of consumers.

Amazon's smart store method includes the Amazon Go app. With this app, customers can go into a physical store, pick items they want to buy without having to scan them manually, and then leave the store without waiting in line to pay (Amazon, 2020). Here's a quick rundown of how it works: (1) Customers use the Amazon Go app on their smartphone to enter the store. (2) When they take an item from a shelf or put it back, sensors on the shelves notice the movement and the app updates the customer's virtual cart. (3) When customers leave the store, a receipt is made automatically and their Amazon account is charged. None of these steps need help from store staff.

As per AI Index Annual Report 2024 by Stanford University this figure below shows responses to Ipsos' survey on AI products and services by country. We shall focus on Indian responses in this diagram



Source: Ipsos, 2022–23 | Chart: 2024 AI Index report

Fig 1

Key Observations for India (2023)

- **Understanding AI**

66% of respondents in India agreed they have a good understanding of what artificial intelligence is.

This indicates relatively high awareness compared to several other countries.

- **Profound Impact in the Future**

79% of respondents believe that products and services using AI will profoundly change their daily life in the next 3–5 years.

This is among the highest globally, reflecting optimism and recognition of AI's potential.

- **Trust in AI to Avoid Discrimination**

66% trust AI not to discriminate or show bias towards any group of people.

This demonstrates moderate confidence in ethical AI practices.

- **Benefits vs. Drawbacks**

65% agree that products and services using AI have more benefits than drawbacks.

This signifies a positive outlook toward AI, although not overwhelmingly so.

- **Excitement About AI**

66% say products and services using AI make them excited.

This is a strong indicator of enthusiasm and interest in AI-driven innovations.

- **Nervousness About AI**

62% report that AI products and services make them nervous.

While excitement is high, there is a significant level of apprehension, reflecting concerns about the technology's implications.

- **Awareness of AI Products**

62% claim they know which types of products and services use AI.

This shows a decent level of familiarity with AI applications.

- **Trust in Companies Using AI**

67% trust companies that use AI as much as other companies.

This suggests relatively high trust in AI-driven organizations.

- **Data Protection**

64% trust companies using AI to protect their personal data. Although this is fairly high, concerns around data privacy still persist for a significant portion of respondents.

- **AI's Recent Impact**

63% feel that products and services using AI have already profoundly changed their daily life in the past 3–5 years. This indicates substantial perceived influence, underscoring the rapid integration of AI into everyday experiences.
Overall Analysis for India:

- **Positive Sentiment**: Indians show high awareness and excitement about AI, along with optimism regarding its future impact.

- **Trust and Concerns:** While trust in companies and ethical AI practices is relatively high, nervousness and concerns about data privacy highlight the need for transparent and responsible AI adoption.

- **Growing Influence:** A majority recognize that AI has already made a significant impact on their lives and anticipate even greater changes in the near future.

India's responses reflect a balanced perspective, with both enthusiasm and caution about AI's role in the retail and broader sectors.

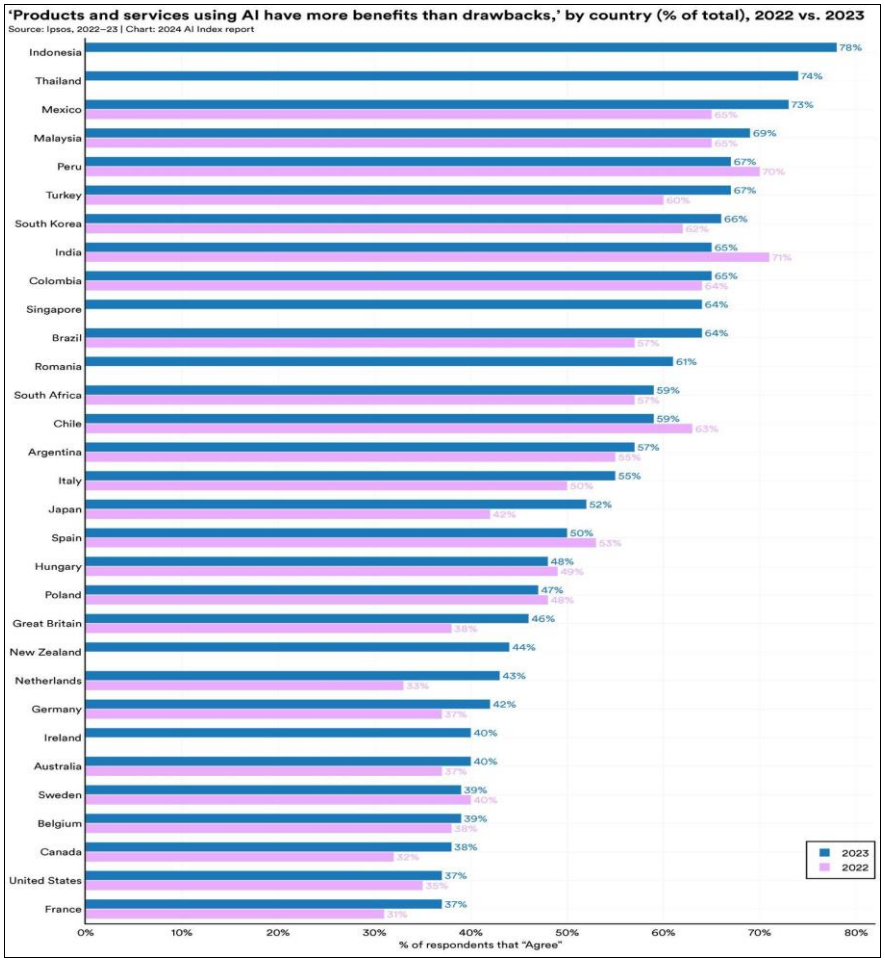
The indian retail market: Readiness and swot analysis

The Indian retail market, characterized by its diversity and rapid growth, shows significant potential for AI adoption. According to Gupta *et al*. (2021) [12], the increasing penetration of smartphones and digital payment systems provides a conducive environment for AI-driven innovations. However, the mark*et al*so faces challenges such as inadequate infrastructure and regulatory hurdles.

Swot analysis

Strengths:

Growing Consumer Base: India's large and growing population, coupled with increasing digital literacy, provides a fertile ground for the adoption of AI-driven retail solutions. With over 1.4 billion people and a significant percentage entering the middle class, there is a vast market for tailored retail experiences. Retailers can leverage AI tools like predictive analytics, machine learning algorithms, and natural language processing to cater to diverse consumer preferences effectively (Gupta *et al*., 2021) [12]. Additionally, the rising penetration of smartphones and internet accessibility, even in tier-2 and tier-3 cities, boosts the potential reach of AI technologies (Deloitte, 2022) [6].
As per AI Index Annual Report 2024 by Stanford University this figure below shows how positively AI products and services will have more benefits than drawbacks, as the percentage moved from 65% in 2022 to 71% in 2023. Thus representing consumers perception towards usage of such technological innovations in retail market.



Source: Ipsos, 2022-23 | chart: 2024 AI index report

Fig 2

E-commerce Adoption: The rapid proliferation of e-commerce platforms in India has built a strong foundation for integrating AI technologies into retail. AI-powered solutions such as personalized product recommendations, virtual try-on features, and automated customer service enhance the online shopping experience, increasing consumer engagement (Kumar *et al*., 2021) [16]. Furthermore, e-commerce giants like Amazon and Flipkart have invested heavily in AI to improve logistics, optimize supply chains, and create data-driven marketing campaigns (Bradlow *et al*., 2017) [3]. These advancements pave the way for smaller retailers to adopt similar innovations, creating a competitive and technologically dynamic market landscape.

Weaknesses:

Technological Disparities: While urban areas in India are embracing advanced technologies, rural regions still face limited access to high-speed internet and modern infrastructure. This digital divide poses a significant challenge to the scalability of AI-driven retail solutions across the country (Priyadarshi *et al*., 2019) [28]. Retailers targeting rural markets must navigate these technological disparities, often leading to higher implementation costs and reduced efficiency. Additionally, the lack of digital awareness among rural consumers further limits the adoption of innovative AI solutions in underserved regions (Gupta *et al*., 2021) [12].

High Implementation Costs: Implementing AI in retail requires significant upfront investment in infrastructure, advanced software, and skilled personnel. For small and medium-sized enterprises (SMEs), these costs can be prohibitive (Bynagari, 2015). Beyond the initial expenses, the ongoing need for maintenance, updates, and training further strains resources (Deloitte, 2022) [6]. Many businesses are hesitant to adopt AI technologies due to the uncertainty of returns on investment, especially in a price-sensitive market like India.

Opportunities

IoT Expansion in FMCG: The integration of IoT devices into retail operations offers transformative opportunities. Smart shelves, connected appliances, and inventory management systems can revolutionize supply chain efficiency (Sharma *et al*., 2022) [20]. For instance, IoT-enabled devices can provide real-time insights into stock levels, enabling retailers to reduce wastage and optimize replenishment cycles. In the fast-moving consumer goods (FMCG) sector, such innovations are particularly valuable (Manavalan, 2020) [25].

Personalized Experiences: As consumer expectations evolve, retailers can leverage AI to deliver hyper-personalized shopping experiences. By analyzing customer behavior, preferences, and purchase history, businesses can offer tailored product recommendations, targeted promotions, and customized communication (Kumar *et al*., 2021) [16]. These personalized strategies not only enhance customer satisfaction but also foster brand loyalty and long-term retention (Chen & Lin, 2020) [5].

Government Initiatives: The Indian government's push for digital transformation through initiatives like "Digital India" creates a supportive environment for AI adoption. Subsidies, tax incentives, and partnerships between public and private sectors encourage businesses to explore AI-driven innovations in retail (Gupta *et al*., 2021) [12]. These policies aim to bridge the digital divide and promote technological advancement across industries (Donepudi *et al*., 2020a) [8, 9].

Threats

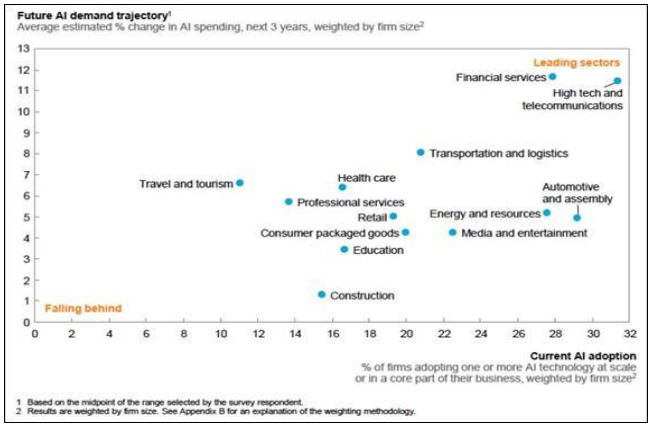
Data Security and Privacy: As AI solutions rely heavily on consumer data, concerns over data breaches and misuse are growing (Johnson & Walker, 2020) [13]. The absence of robust data protection laws can undermine consumer trust, deterring engagement with AI-driven platforms. Retailers must prioritize cybersecurity measures to safeguard sensitive information and maintain credibility (Bryson & Winfield, 2017) [4].

Intense Competition: The Indian retail market is highly competitive, with players from both domestic and international arena striving for market share. The pressure to adopt AI rapidly often leads to hasty implementations, resulting in inefficiencies and suboptimal outcomes (Yang *et al*., 2020) [29, 30]. Smaller retailers, in particular, struggle to keep up with the pace of technological advancement (Inman & Nikolova, 2017) [26].

Regulatory Challenges: Uncertain or evolving regulations around AI and data usage add complexity to strategic planning for businesses (Smith *et al*., 2019) [22]. Companies must navigate these regulatory uncertainties carefully to ensure compliance while maintaining operational flexibility (Yang, 2020) [29, 30].

Future of Artificial Intelligence in Retail

In 2024 Niti Aayog came up with National Strategy for Artificial Intelligence in which it gave the below current and predictive future demand trajectory of AI in various sectors.



Source: McKinsey Global Institute AI adoption and Use Survey

Figure 3

This graph illustrates the future trajectory of AI demand across various sectors, showing the average percentage change in AI spending over the next three years (vertical axis) alongside the current level of AI adoption (horizontal axis).

The retail sector in India is moderately advanced in its adoption of AI, with a notable percentage of firms integrating AI technologies into core operations. However, it remains positioned in the middle of the graph, lagging

behind industries such as high-tech, telecommunications, and financial services. In terms of future AI spending growth, the retail sector demonstrates a moderate increase over the next three years, surpassing areas like education and professional services, yet not matching the aggressive growth seen in leading sectors such as financial services and transportation.

Retail businesses are currently utilizing AI for purposes like personalization, supply chain optimization, and customer engagement. However, the sector's moderate growth trajectory indicates that significant potential remains untapped compared to more advanced sectors. As AI adoption continues to grow, retailers stand to benefit further by leveraging consumer analytics, augmented reality, and automated systems to enhance operational efficiency and improve customer experiences. This positions the retail sector at a crucial juncture, where increased AI investment could drive substantial advancements in both competitiveness and innovation.

Predictive analytics tools empower large enterprises to forecast forthcoming customer actions by analyzing historical or present behavioral patterns, thereby validating their strategic decisions. Predictive analytics serves to lower brand churn rates by pinpointing dissatisfied customers and identifying potential risk scenarios. Urban Outfitters, Sephora, and Under Armour are among the notable examples utilizing an advanced machine learning engine from Dynamic Yield to segment their customer base

Implementation challenges of AI in retail industry

Millennials As the biggest generation, recent millennials will have a spending power of 1.4 trillion US dollars (Manavalan, 2020) [25]. They're likewise a difficult age segment that requests a customized insight with insubordinate shopping patterns, exclusive requirements and little persistence. Numerous retailers are having difficulties to carry out the data-driven, consistent and customized experience that recent millennials request, and the retailers who neglect to address these demands will be left far behind. Omnichannel Reach In our current reality where shoppers continually need to purchase, get and return things from any place quickly and proficiently, retailers can't keep up. Over 70% (Manavalan, 2018) of retail and consumer goods CEOs said that omnichannel satisfaction was a first concern and revealed they were under danger from other online and social retailers offering same-day delivery services. Retailers are confronted with coordinating their supply chains with fast visibility and proficiency from the warehouse straight to the client, and everything in the middle. It particularly impacts retailers who should rapidly turn over occasional inventory, present new fashions without any past experiences of sales and convey consistently developing designs, colors and sizes. Retailers that lack visibility and capacity to immediately deliver products to their customers will not endure. Rising Wages, as retailers create omnichannel techniques that balance the requirements of physical and digital channels, they're additionally confronting rising work costs and a demand for more prominent customer support. Basically cutting hours or labor force can have drastic impacts by reducing the customer experience. With no reasonable, assigned solutions, many are exploring different challenges regarding automation, improving work processes and further developing work plan. Innovation like tablets, sensors and automated signage can enhance and better empower human partners to serve clients all the more adequately (Donepudi *et al*., 2020a) [8, 9]. Self-serve stands, mobile payments and applications can also play a vital role in emphasizing more responsibility on staff.

Limitations of the study

This research paper represents an initial exploratory investigation into the role of AI in the Indian retail sector, with emphasis on the distinct characteristics of the local market. Over the past few years, AI has increasingly influenced various facets of retail, making its presence felt not only through the widespread use of the Internet of Things (IoT) but also via emerging technologies like virtual and augmented reality. These technologies have already begun to reshape the way retailers engage with consumers, optimize supply chains, and personalize shopping experiences. However, the current body of work in this field is still nascent, and much more in-depth analysis is required to fully understand the implications of AI in the Indian retail landscape.

A key area that requires investigation is the impact of AI on retailers' profitability. While it is evident that AI technologies can help improve operational efficiencies, optimize inventory management, and enhance customer experiences, their direct influence on retailers' profit margins remains underexplored. It is essential to assess how these technologies contribute to financial performance, whether through cost reductions, increased sales, or more effective customer retention strategies. Understanding these aspects is crucial for retailers looking to justify the investments required for AI implementation.

Equally important is the need for research from the consumer's perspective. As AI continues to evolve and shape retail environments, it is crucial to understand how consumers perceive these changes. Research into consumer attitudes should focus on factors such as perceived risk—how comfortable customers are with sharing personal data or engaging with AI-driven platforms—ease of use, and purchase intentions. These factors influence whether consumers embrace AI-enabled retail experiences or are deterred by concerns about privacy, security, or technological complexity. Conducting a nationwide study across India would provide valuable insights into regional differences, helping to capture the diverse consumer behaviors that characterize a vast and heterogeneous market like India.

Moreover, it is necessary to evaluate the various socio-economic segments in India, as consumer perceptions of AI may vary significantly across different demographic groups. For instance, urban consumers with higher digital literacy may respond differently to AI-based services than rural consumers who might face barriers such as limited access to technology or lower levels of digital familiarity. By examining these nuances, businesses and policymakers can tailor AI solutions that meet the specific needs and concerns of different consumer segments, thereby increasing adoption rates and fostering trust in AI technologies.

While AI has the potential to transform the retail sector in India, further research is essential to understand its multifaceted impact. From a retailer's viewpoint, a deeper analysis of its influence on profit margins will help determine the long-term value of AI investments. From a consumer perspective, a more detailed understanding of

attitudes, concerns, and adoption drivers will help retailers and tech developers create more consumer-centric solutions that resonate with the Indian market. As AI continues to evolve, comprehensive studies will be crucial in guiding its successful integration into the retail ecosystem in India.

Conclusion

For most retailers, clearly the retail scene will keep on advancing toward IoT technologies into the following decade and past as customers become more associated with innovation. This makes having a drawn out IoT technique a need. The digital buyer of things to come will probably expect, even demand that their shopping be an engaging and customized process empowered through their gadgets. One might say, the IoT-empowered store is wherever the client is or needs to be. It incorporates instinctive and consistent connection with products and interconnected innovations, happening wherever at without fail. Purchasers will appreciate simple self-sufficient choices, and more extravagant, more smart, and credible shopping experience. Shopping by addressing a gadget will be typical, and the capacity to witness products in 3D, modify them or even try a virtual fitting room with social sharing choices will probably turn into a reality in only a couple of years. The eventual future of shopping will incorporate these and other new ideas. Customer engagement as a component of advanced change will keep on driving more important personalization and simplification of retail endeavors. However, for this load of expectations, in actuality, this future is as of now here. Customers are all around associated and turning out to be tech-savvy. Hence, the challenge for retailers to overcome is making a powerful IoT ecosystem that adjusts and stays aware of the buyers' demands and preferences. For retailers that embrace IoT by utilizing advanced, mobile, sensor-empowered, and social media platforms powered by an IoT environment, what's to come is today.

The integration of AI into retail marketing is driving a profound transformation in the industry. While the Indian retail market exhibits significant readiness for AI adoption, addressing challenges such as infrastructure gaps and data privacy concerns is essential. The synergy between AI and IoT technologies, particularly in the FMCG sector, holds immense potential to propel retailers toward sustained success in the digital economy. By embracing innovative strategies and leveraging technological advancements, retailers can gain a competitive edge and meet the evolving needs of consumers.

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