



The Impact of Artificial Intelligence-Based Product Recommendations on Online Purchase Intention among Young Adult E-Commerce Consumers

Nama Janaiah

Degree College Lecturer, Department of Commerce, MJPTBCWRDC (Men), Palakurthi

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ABSTRACT

Understanding the marketing activities performed by companies using AI is important. This will help in understanding the complexity of AI to improve the marketing performance of the company. This study aims to analyse the influence of AI-based recommendation systems on online purchase behaviour in India. The study will help users understand the ways in which companies use AI to provide a personalised recommendation system when purchasing a specific product. This will help companies in developing effective marketing strategies, including a personalised recommendation system, by using AI in an appropriate manner. The use of voice research functionality has simplified the shopping process. This has been done by enabling users to browse and select products without the need for navigation. Increasing sophistication of AI systems creates a powerful impact on consumer behaviour. It shapes trust, emotional reactions and perceptions of consumers to initiate online purchases. In this study, information has been gathered from different sources of secondary data.

1. Introduction

1.1 Contextual Background

Consumer behaviour is changing significantly due to digital transformation in terms of e-commerce platforms. The use of artificial intelligence (AI) in marketing has increased for generating sales and consumer segmentation (Torthienchai & Chuaikaew, 2025). In the digital age, AI is a marketing tool that helps companies to understand consumer purchase patterns and behaviour. The proliferation of AI-based recommendation systems in e-commerce platforms such as Alibaba and Amazon has developed an environment in which personalised product suggestions has become a significant part of the online shopping experience. These systems use algorithms such as content-based filtering, deep learning neural networks, hybrid approaches and collaborative filtering to evaluate user purchase history, browsing activities and behaviour patterns (Rolando, 2025). The sophistication of these systems helps in predicting consumer preferences in an accurate manner. The companies introduce products which have not been discovered by the users through traditional search methods. The influence of these recommendation systems is beyond product discovery, which influences decision making and consumer psychology.

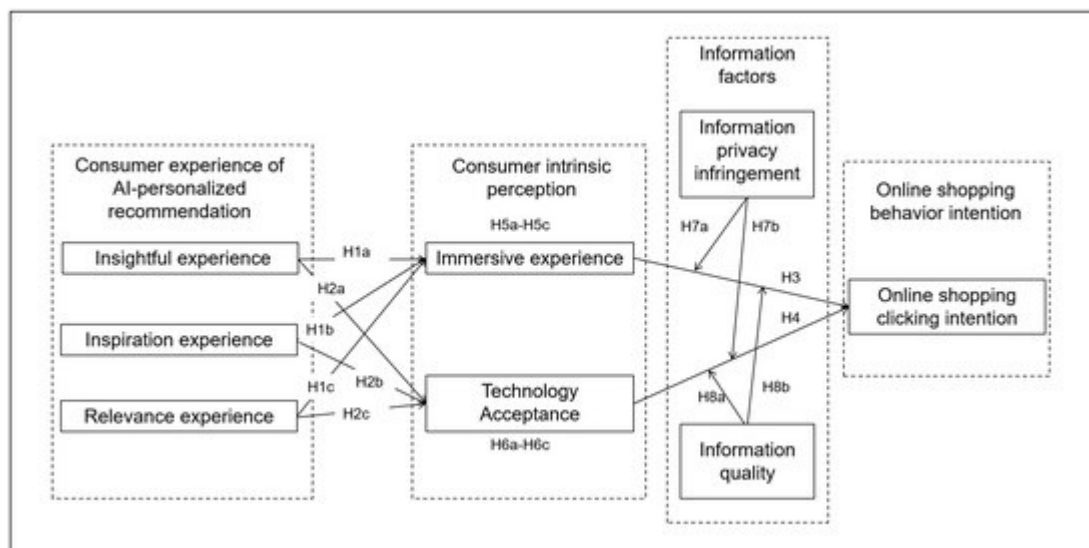


Figure 1: Impact of consumer experience of AI-personalized recommendation

(Source: Yin et al., 2025)

Corresponding Author: namajohnny@gmail.com



1.2 Problem Statement

Existing literature focuses on the use of AI in marketing and business strategies. However, the use of AI in different activities of marketing has increased among Indian companies. A personalised recommendation system is one of the activities performed by companies using AI, which has limited studies. It has been found that online purchasing behaviour creates a powerful impact on e-commerce business in India. In a report, 70% of respondents reported using online platforms to make purchase decisions (Pandolph, 2021). This highlights the significance of AI utilisation in marketing activities of Indian companies to attract consumers. Understanding the marketing activities performed by companies using AI is important. This will help in understanding the complexity of AI to improve the marketing performance of the company. This is the research problem which has been focused on in this study.

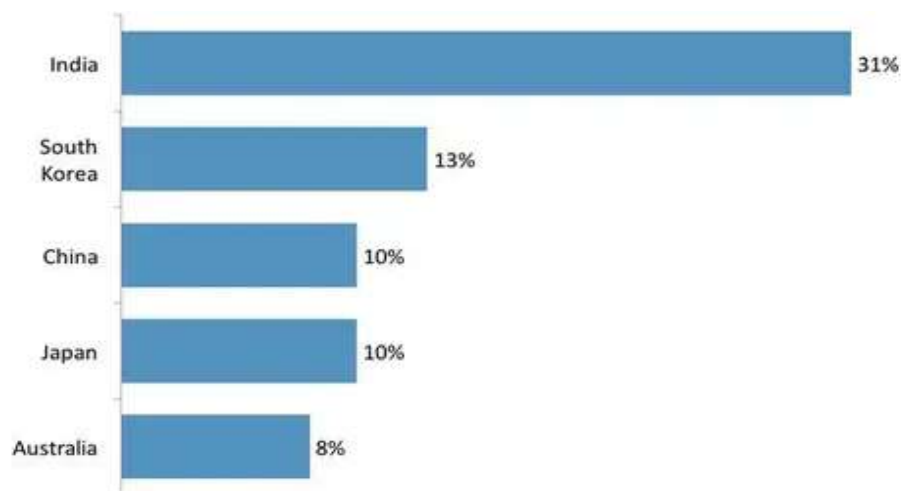


Figure 2: Consumers' preference to shop online in India

(Source: Pandolph, 2021)

1.3 Research Objectives

- To identify the use of AI by Indian companies
- To evaluate the influence of AI on the purchasing behaviour of Indian consumers
- To identify AI-based recommendation systems used by Indian companies
- To analyse the influence of AI-based recommendation systems on online purchase behaviour in India



1.4 Significance of the research

This study is highly significant for Indian companies to understand online purchase behaviour of consumers. The study will help users understand the ways in which companies use AI to provide a personalised recommendation system when purchasing a specific product. This will help the companies in developing effective marketing strategies, including a personalised recommendation system, by using AI in an appropriate manner. This research can be used by the government and companies to contribute to the growth of e-commerce business in India. This will create a positive influence on the economic growth of India.

1.5 Review of Literature

In traditional business, impulsive buying behaviour in physical retail has been highly influenced by store Ambience and product placement. However, online platforms have replicated these aspects through personalised suggestion algorithms and scarcity cues. In the opinion of Ingriana (2023), the increasing sophistication of AI systems creates a powerful impact on consumer behaviour. It shapes trust, emotional reactions and perceptions of consumers to initiate online purchases. As opined by Dixit et al. (2025), personalised recommendation systems include the prediction of preference and interest of users as well as providing tailor recommendation. It is used in different domains such as online retail, entertainment platforms and e-commerce to improve user engagement and experience.

The use of an AI-integrated system helps companies in predicting consumer demands, which results in providing personalised recommendations. The use of voice research functionality has simplified the shopping process. This has been done by enabling users to browse and select products without the need for navigation. Companies in India, such as FreshCart, integrated AI to reduce logistics expenditure for the company by 15% (Bhatt & Singh, 2024). AI technology is also used in the form of voice search and chatbots to resolve the queries of consumers and fulfil their demands.

1.6 Research Questions

1. To what extent is AI used by Indian companies?
2. What is the influence of AI on the purchasing behaviour of Indian consumers?



3. To what extent are AI-based recommendation systems used by companies?
4. What is the influence of AI-based recommendation systems on online purchase behaviour in India?

2. Methodology

2.1 Research Methods and Designs

In this research, an exploratory research design has been used to understand the impact created by AI-based recommendation systems on online purchase behaviour of Indian consumers. Exploratory research design method has been used to identify the aspects which are required to be covered in a study by focusing on the research problem (Thomas & Zubkov, 2023). This has assisted in meeting the research aim and objectives by drawing appropriate conclusions.

2.2 Data Collection Method

In this study, information has been gathered from different sources of secondary data. The use of secondary data helps in completing the research in a time-effective manner. The articles and journals used in the study have been selected from Google Scholar.

2.3 Instruments and Tools

Different academic information sources have been used in the research to meet the research objectives. The data have been gathered from articles and journals published by JSTOR, ResearchGate, ScienceDirect, and ProQuest, along with industrial and Company reports.

2.4 Data Analysis

Thematic method of data analysis has been applied in this study to meet the research questions. In thematic analysis, the study focuses on observations and notes by developing themes to organise and explain the findings (Squires, 2023). This method has assisted in presenting the findings of the study in a suitable manner.

2.5 Ethical Considerations

The ethical code of conduct published by the University has been followed while conducting the research. Data Privacy Act has also been followed in this study. Referencing and citation guidelines provided by the University have been followed. This has assisted in making



the study credible and relevant for the users.

3. Results

Theme 1: AI-Based Personalisation and Product Recommendations

The dependency of consumers on algorithm suggestions has increased to make purchase decisions. AI driven recommendation act as a cognitive shortcut that provides convenience to consumers for product assessment. AI-based recommendation systems impact purchase decisions by reducing search expense and managing information in an online environment (Sasikala, 2026). The use of AI-driven personalisation has become important for companies seeking a competitive advantage in the digitalised market in India. In an AI-based recommendation system, purchasing history, use of references, and browsing data are used to offer personalised recommendations to consumers. With the help of machine learning algorithms, suggestion accuracy is improved on the basis of user interaction data. It has been found that a hybrid recommendation model helps in improving consumer relevancy and happiness by enhancing purchase intention and product discovery (Jayalakshmi, 2026). AI-based recommendation systems use neural network architecture and integrate contextual signals such as location, device and time. This helps in improving the relevance of the suggestions made to the consumers. The integration of recommendation engines is highly beneficial. An online retailer experienced a 15% increase in revenue with the integration of an AI-based recommendation system in product pages (Vimal, 2026). Personalisation helps in gaining higher efficiency related to decision making (Kumar, 2026). An AI-based recommendation system has increased trust and engagement of consumers due to a personalised experience.

Theme 2: Influence of AI Recommendations on Consumer Purchase Behaviour

The mechanism of AI personalisation has increased consumer engagement and satisfaction. It has created a positive influence on purchase intentions due to its convincing quality. Web personalisation enhances the quality of decision-making and information processing by the users. However, the personalisation privacy paradox is one of the issues in AI-based recommendation systems (Sharma et al., 2025). In providing personalised recommendations, consumer information is used, which might be a concern for consumers. Development in generative AI has assisted in targeted advertising and recommendation systems.



These tools have improved decision efficiency by providing real-time and personalised support. The use of AI-based recommendation systems has reduced search costs and time for consumers (Bhojwani et al., 2026). This has resulted in improved trust and satisfaction among the consumers through AI-based personalisation. Consumer behaviour has transformed significantly due to the advancement of AI technology and its application in personalised recommendation systems. By using AI, companies provide consumers with personalised services. This has been done by anticipating the needs of consumers with the help of AI capabilities. Customise experience catering to consumer preferences and wants allows the companies to develop strong relationships with their consumers (Kumar, 2024). AI-based recommendation systems lead to higher consumer loyalty, which reinforces the significance of AI in developing engagement and personalised shopping experiences.

Theme 3: Consumer Experience, Trust and Engagement with AI

Consumer engagement is considered the level of mental and behavioural involvement in purchasing with the company. Consumers involved in brands communicate with the company to share their experience. AI-based personalisation and interactive communication contribute to improving consumer engagement with the company (Balyan et al., 2026). Consumers feel connected with the company due to participation in activities linked with the company. India, being the most populous nation as well as the second largest emerging economy, consumers is tech-savvy and easily communicates through digital media platforms. Digital services have become extremely important to more than 700 million internet users in India, out of which 350 million are digital payment users and 220 million (Tiwari et al., 2025). AI consumer insights are defined as the application of algorithms and big data analysis that help predict consumer behaviour and decision-making through the use of predictive models (Uddin et al., 2026). These insights allow for the creation of tailored marketing campaigns and optimal customer journeys.

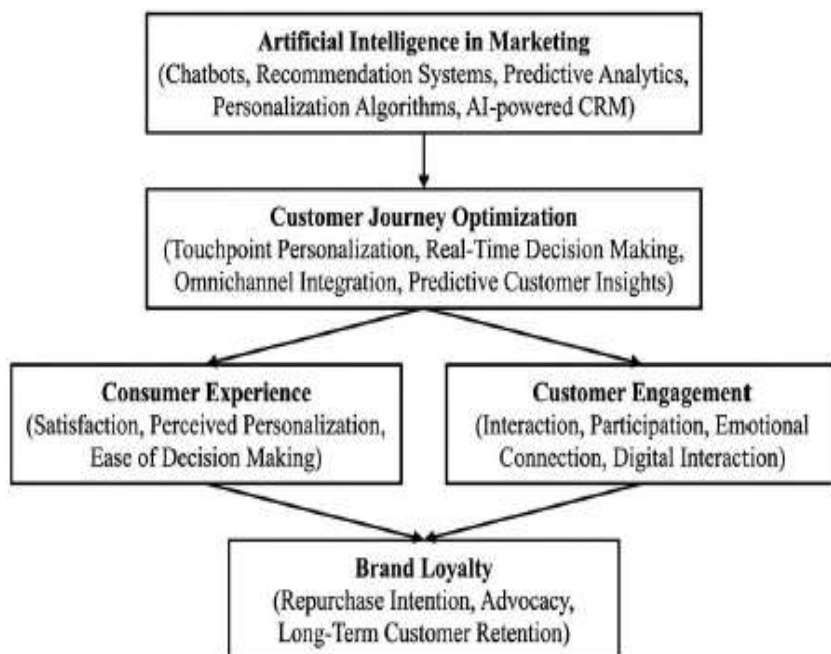


Figure 3: AI-Driven Consumer Journey

(Source: Balyan et al., 2026)

Theme 4: AI-Driven E-Commerce Performance and Strategic Implications

In the digital environment, e-commerce has matured into intelligent commerce in which machine learning, big data and AI personalise and automate information related to consumer experience. Behavioural prediction models, conversational agents and Recommendation engines autonomously communicate with consumers, shaping the transactional process along with the emotional dimension of the experience (Mittameedi & Dogra, 2026). Leading global retailers such as eBay, Walmart, and Nordstrom have been implementing Gen AI for multiple use cases, and in India, 71% of the retail firms have plans to implement Gen AI over the next 12 months. However, despite the huge possibilities presented by Gen AI, companies face difficulties, with 80% of organisations not ready enough to deploy Gen AI due to the lack of clear use cases and skill sets required (EY India, 2024).

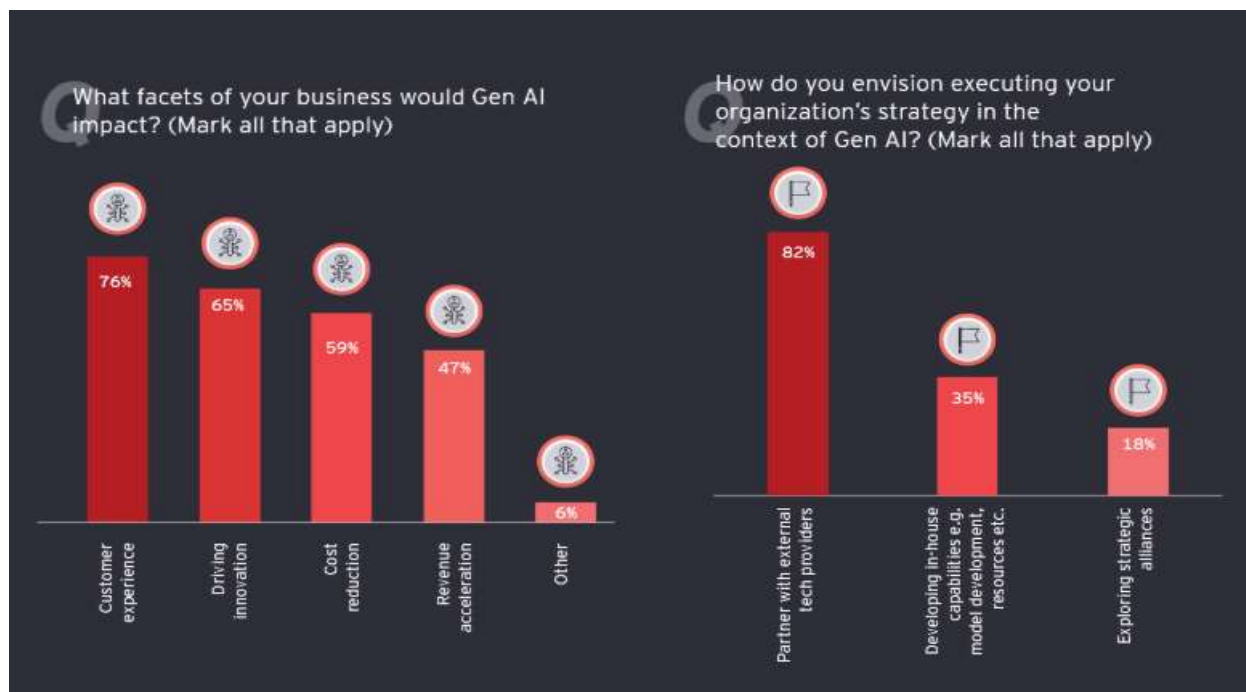


Figure 4: Integrating Generative AI (Gen AI)

(Source: EY India, 2024)

4. Discussion

4.1 Interpreting results

The thematic analysis highlights that an AI-based product recommendation system impacts online purchase intention in four interconnected aspects, which include strategic e-commerce performance, purchase behaviour, personalisation, and consumer experience. The first theme illustrates that recommendation systems evaluate behavioural patterns, browsing history and past purchases to predict consumer preferences. The finding is consistent with the research aim of focusing on the ways in which Indian companies use AI to offer personalised product recommendations. Personalised recommendations reduce the effort needed to search through a large number of products and make product discovery easy for consumers. The second theme highlights those personalised recommendations impact purchase intention, decision-making, and product evaluation. The literature in the study signifies that AI recommendations can generate persuasive impact created through store in government and product placement.



In the findings, it has been identified that recommendation system quality increases purchase intention and perceived value among consumers. However, the impact might operate through the perception of usefulness and value of consumers instead of producing purchases.

The third theme reflects that personalisation depends on technological deployment and advancement. AI-based recommendations improve consumer engagement and convenience. However, responses of the consumers are highly dependent on whether recommendations have been perceived as trustworthy and relevant. This is significant since the research literature highlights trust as a significant aspect that connects purchase intention and AI personalisation. The fourth theme the study indicates that AI supports businesses, which is beyond the recommendation system. In the study, it has been identified that voice search, chatbots, and recommendations are included in the application of AI systems. This illustrates the ways in which AI can improve market efficiency and consumer interaction.

4.2 Comparative Analysis with published literature, unexpected outcomes, implications of findings

The findings support literature highlighting a positive relationship between online purchase behaviour and AI personalisation. Research including Indian e-commerce consumers highlights perceived relevance as well as consumer trust as significant aspects linked with purchase intention. Research on AI based personalization identify that personalisation can improve purchase intention. However, consumer control and transparency create a powerful impact on trust. This finding reinforcedure focus of the present study related to trust, consumer behaviour and personalisation. Another major finding that is surprising is that even if the recommendations provided are better, it does not necessarily result in increased customer satisfaction after purchasing the product. In fact, recent findings have proved that recommendation quality can lead to higher perception of value and purchase intention without actually increasing satisfaction after purchase.

5. Conclusion



5.1 Chapter Summary

It has been concluded that personalised recommendation systems include the prediction of preference and interest of users as well as providing tailor recommendation. It is used in different domains such as online retail, entertainment platforms and e-commerce to improve user engagement and experience. The use of AI-driven personalisation has become important for companies seeking a competitive advantage in the digitalised market in India. An AI-based recommendation system uses neural network architecture and integrates contextual signals such as location, device and time. This helps in improving the relevance of the suggestions made to the consumers. The integration of recommendation engines is highly beneficial. Development in generative AI has assisted in targeted advertising and recommendation systems. These tools have improved decision efficiency by providing real-time and personalised support. Customise experience catering to consumer preferences and wants allows companies to develop strong relationships with their consumers. AI-based personalisation and interactive communication contribute to improving consumer engagement with the company.

5.2 Limitations

One of the limitations identified in the study is its dependency on secondary data. The dependency on secondary data has Limited control over research context, sample characteristics and data quality. The findings of the study have focused on the use of AI for recommendation systems and personalisation. However, AI is used by Indian companies for different activities such as accounting and operations. This has not been covered in the study, which highlights its limitation.

5.3 Recommendations

E-commerce companies in India are required to enhance recommendation accuracy and maintain transparency related to data collection. This will create a positive influence on personalisation services offered by the company. The companies are required to provide a high level of control over recommendations along with improving privacy practices. In future research, primary data can be used for adult consumers to validate these findings.

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