International Journal of Scientific Research & Engineering Trends
Volume 12, Issue 2, Mar-Apr-2026, ISSN (Online): 2395-566X

"Impact of Artificial intelligence on Consumer behavior"P

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Abstract- — Artificial Intelligence (AI) is no longer just a futuristic concept; it has quietly become a part of our daily lives, influencing the way people search, shop, and interact with brands. From personalized recommendations on e-commerce platforms to virtual assistants answering queries in real time, AI has started to reshape how consumers make decisions. This research paper focuses on understanding the impact of AI on consumer behaviour, looking beyond the technology itself to explore how it changes trust, buying patterns, loyalty, and expectations. The study examines how AI creates value by offering convenience and personalization—consumers now expect brands to "know them" and provide solutions tailored to their needs. At the same time, it highlights challenges such as privacy concerns, over-reliance on algorithms, and the risk of losing the human touch in brand–consumer relationships. By analysing existing studies, market practices, and consumer perceptions, this paper aims to bridge the gap between technological advancement and human psychology. Ultimately, the research argues that AI is not just influencing consumer choices but also shaping a new kind of consumer—more informed, more connected, and more demanding. Businesses that can balance AI-driven efficiency with ethical responsibility and genuine human engagement will be the ones to build lasting trust in the age of intelligent technology.

Keywords— Artificial Intelligence, Consumer Behaviour, Personalization, Customer Loyalty, Privacy Concerns.

I. INTRODUCTION

In the past, marketing was largely about intuition, experience, and mass communication. Today, however, Artificial Intelligence (AI) has shifted the game entirely, bringing precision, personalization, and speed into the way businesses interact with their customers. Simply put, AI in marketing means using intelligent systems—chatbots that respond instantly to customer queries, algorithms that predict what we might want to buy next, or recommendation engines that suggest products, movies, or music based on our past choices. These tools have quietly become part of our daily lives, often guiding our decisions without us even realizing it.

The importance of AI in today's business environment is undeniable. With intense competition and information overload, consumers are constantly bombarded with options. AI helps companies cut through this noise by understanding consumer preferences and delivering highly personalized experiences. Think of how Netflix recommends a series tailored to your taste, or how Amazon seems to "know" the next product you might need. These examples show how AI doesn't just support businesses—it actively shapes the consumer journey, influencing what people notice, consider, and eventually purchase.

But this influence also brings challenges. The central problem is not whether AI affects consumer behaviour—it clearly does—but how it influences it. Does AI truly empower consumers by saving time and effort, or does it subtly manipulate choices? Do people trust machine-driven recommendations, or do they feel skeptical about whether companies are using their data responsibly? Privacy concerns, lack of transparency, and fear of losing human connection are some of the biggest hurdles in building trust around AI-driven interactions.

These concerns lead us to the guiding questions of this research:

1. How does AI affect consumer decision-making?
2. Does AI improve trust and satisfaction, or does it create scepticism and resistance?

The objective of this paper is to explore these questions in depth and paint a balanced picture of AI's impact on consumer behaviour. On one hand, AI makes life easier—helping consumers discover products, get personalized solutions, and enjoy seamless customer service. On the other, it raises ethical and emotional questions about privacy, manipulation, and over-dependence on technology. By examining both sides, this study aims to provide insights not only for businesses that are rapidly adopting AI but also for consumers who are navigating a new

era where their decisions are shaped as much by algorithms as by personal choice.

II. OBJECTIVES OF THE STUDY

The primary aim of this research is to examine how Artificial Intelligence is influencing consumer behaviour in today's business environment. The study is guided by the following specific objectives:

1. To analyse the role of AI in consumer decision-making
Understand how tools like chatbots, recommendation engines, and predictive analytics guide or shape consumer choices.

2. To study the impact of AI on consumer trust and satisfaction
Examine whether AI-driven personalization builds stronger relationships with consumers or creates scepticism due to over-automation.

3. To evaluate consumer perceptions of privacy and ethical concerns
Explore how consumers feel about data usage, transparency, and the ethical implications of AI-driven marketing.

4. To assess the influence of AI on brand loyalty and post-purchase behaviour
Identify whether AI enhances long-term engagement and loyalty or if it risks weakening the human connection with brands.

5. To provide recommendations for businesses on responsible AI adoption
Suggest strategies for balancing AI-driven efficiency with ethical practices and genuine customer engagement.

6. To measure the effect of AI on impulse buying and planned purchases
Explore whether AI recommendations trigger unplanned buying behaviour or support rational decision-making.

7. To understand the emotional aspect of AI-driven interactions
Analyze whether consumers feel emotionally connected or detached when interacting with AI tools compared to human representatives.

III. LITERATURE REVIEW

3.1 AI in Marketing: Personalization and Data-driven Advertising

Recent literature emphasizes that AI has moved from an experimental tool to a core marketing capability. Researchers show that AI-driven systems — recommendation engines, dynamic personalization engines, programmatic advertising, and predictive analytics — enable firms to deliver highly relevant content and product suggestions at scale, increasing engagement and conversion rates. V. Kumar's 2024 review and other comprehensive analyses map how AI is applied across customer acquisition, retention, pricing, and service functions and note measurable uplifts in click-through and sales when personalization is well-executed.

Empirical studies on recommendation engines and personalization report two consistent findings: (a) personalization typically improves immediate response metrics (clicks, short-term purchases), and (b) the quality of personalization depends heavily on data quality and algorithm design — poor data or opaque algorithms can backfire. Newer work (2024–2025) is pushing beyond "does it work?" to "how and why it works," examining mediators such as perceived relevance and cognitive ease.
https://www.researchgate.net/publication/395192387_Exploring_the_Impact_of_Artificial_Intelligence_on_Consumer_Behavior

3.2 Identified Gaps (and why they matter)

1. Technology-heavy vs. behaviour-light studies. A lot of current research maps algorithms, system architectures, and performance metrics; fewer papers dig deeply into actual consumer psychological processes in specific markets (how consumers interpret, contest, or internalize AI signals). Systematic reviews note this tilt toward technical metrics rather than lived consumer experience.

2. Contextual shortage for India (and many emerging markets). While global surveys exist, there is still comparatively less rigorous, peer-reviewed evidence focused on consumer behaviour with AI in India — how cultural norms, digital literacy, privacy expectations, and price sensitivity mediate AI effects. A few recent Indian studies are emerging (2024–2025), but the field needs more representative, mixed-method work across urban/rural and generational lines.

3. Emotional and relational effects under-explored. Many studies measure clicks, conversion, or immediate satisfaction but do not examine longer-term relational outcomes such as felt

human connection, brand warmth, or sustained loyalty when human interaction is replaced by AI.

4. Heterogeneity by consumer segment. There is limited consensus on how different age groups, socio-economic segments, or product categories (fast-moving consumer goods vs. experiential purchases) respond to AI. Some surveys hint at generational differences but systematic comparative studies remain scarce.
https://www.scribd.com/document/818796107/1567-Yoseph-Gomez-impact-of-AI-in-consumer-behaviour-27684-572259489-1

3.3 How this study fills those gaps
Building on the gaps above, this research will:
Move beyond technology metrics to investigate psychological pathways (perceived relevance, perceived control, emotional response) through which AI shapes decisions.

Focus on the Indian context (or your chosen region if you prefer) to provide local empirical evidence about privacy expectations, trust, and AI acceptance across generations.

Include measures of relational outcomes (brand trust, loyalty, perceived human connection) and compare impulse vs. planned purchase effects.

Use a mixed-method approach (survey + interviews / experiments) to capture both breadth and depth of consumer experience.

IV. RESEARCH METHODOLOGY

Research Design

This study adopts a descriptive and exploratory research design.
Exploratory: To explore how Artificial Intelligence (AI) tools (such as chatbots, recommendation engines, personalized advertisements) are influencing consumer decisions.
Descriptive: To describe the actual buying behaviour, attitudes, and perceptions of consumers towards AI-driven marketing practices.

Research Approach
The research follows a quantitative approach (through structured questionnaires) and a qualitative element (through open-ended questions to capture consumer opinions).
Data Collection Method
Primary Data: Collected through an online/offline questionnaire survey targeting consumers who are exposed to AI-based marketing tools.
Secondary Data: Journals, research papers, articles, industry reports, and online databases related to AI in marketing and consumer behaviour.

Sampling Design
Population: Consumers who shop online or interact with AI-based platforms (e.g., Amazon, Flipkart, Swiggy, Zomato, Myntra).

Sampling Technique: Convenience Sampling due to time and resource limitations.
Sample Size: Around (25) respondents will be targeted to get reliable insights.

Research Instrument
A structured questionnaire will be designed including:
Demographic details (age, gender, income, education).
Awareness and usage of AI tools.

Influence of AI on purchase decisions.
Perception of trust, privacy, and personalization.

Data Analysis Tools
Statistical Tools: Percentage analysis, mean, and standard deviation.

Software: MS Excel / SPSS for data coding and interpretation.
Qualitative Analysis: Thematic analysis of open-ended responses.

Data Analysis and Interpretation

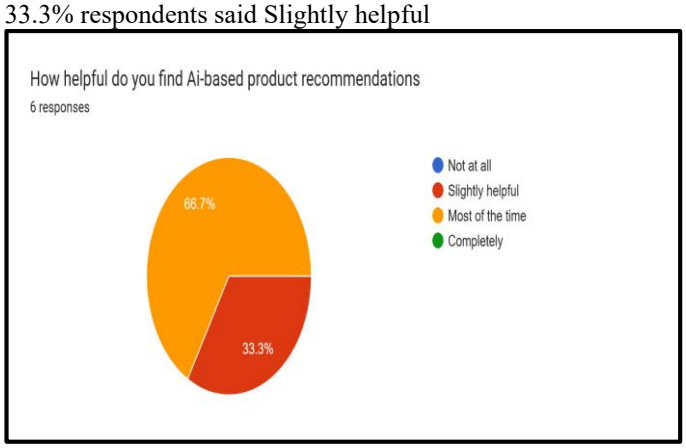
Question 1: Have you ever used AI-based features in online shopping?
Response: 100% of respondents answered Yes.

Interpretation:

This shows that all participants in the survey have experience with AI-based features while shopping online. It indicates that AI tools such as personalized recommendations, chatbots, voice assistants, or virtual try-on options have become widely adopted among consumers. This also reflects the growing penetration and acceptance of AI in e-commerce platforms.

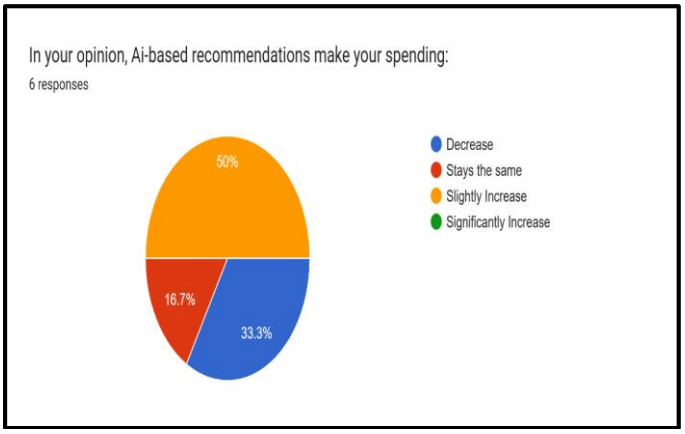
Question 2: How helpful do you find AI-based product recommendations?

Response:
66.7% respondents said Most of the time helpful
33.3% respondents said Slightly helpful



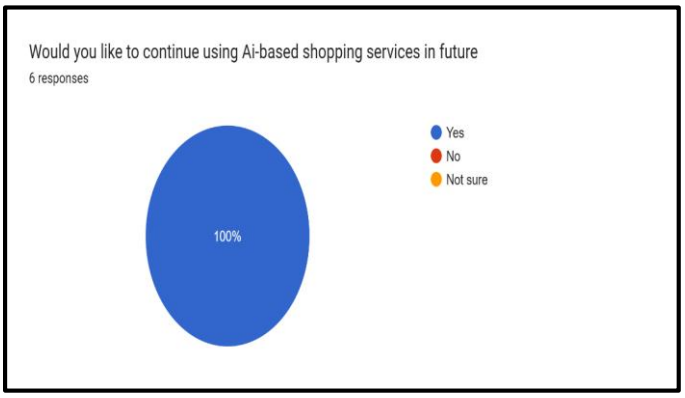
Interpretation:
The majority of respondents (two-thirds) find AI-based product recommendations to be useful most of the time, which highlights the effectiveness of personalization in online shopping. However, a smaller portion (about one-third) still feels that these recommendations are only slightly helpful, indicating that AI suggestions may not always fully align with individual consumer preferences. This suggests that while AI is improving shopping experiences, there is still scope for enhancing accuracy and relevance in product recommendations.

Question 3: In your opinion, AI-based recommendations make your spending:
Response:
50% respondents said Slightly increased
16.7% respondents said Stays the same
33.3% respondents said Decreased



Interpretation:
Half of the respondents reported that AI-based recommendations slightly increase their spending, showing that personalized suggestions can encourage additional purchases. Around one-third felt that their spending actually decreases, possibly due to AI helping them find more relevant or budget-friendly products faster. A smaller group (16.7%) believed that AI has no significant effect on their spending. This indicates that while AI can act as a driver of consumer spending, its influence is not uniform and may depend on individual shopping behaviour.

Question 4: Would you like to continue using AI-based shopping services in the future?
Response: 100% of respondents answered Yes.



Interpretation:
All respondents expressed a willingness to continue using AI-based shopping services in the future. This unanimous positive response highlights strong consumer acceptance and trust in AI-driven tools. It suggests that AI has successfully enhanced

the online shopping experience, and customers are open to adopting more advanced AI features going forward.

V. CONCLUSION

From the responses obtained through the questionnaire, several clear patterns emerge regarding consumer attitudes toward AI-based shopping services:

1. Universal Exposure to AI Features
Every respondent (100%) reported that they have used AI-based features in online shopping. This indicates that AI tools are no longer experimental or niche — they are already part of most consumers' experiences.

2. Perceived Usefulness
A large majority (≈ 66.7%) find AI-based product recommendations "most of the time" helpful, while the rest (≈ 33.3%) find them only "slightly helpful." Thus, while AI recommendation systems are seen as valuable, there is room for improvement in terms of relevance, accuracy, or perhaps alignment with individual preferences.

3. Impact on Spending
Half of the respondents believe that AI recommendations slightly increase their spending. About one-third say spending decreases, while a smaller group feels their spending stays the same. This suggests that AI can both encourage additional purchases (maybe via upselling or suggesting more items) and also reduce spending (perhaps by helping users make better, more informed, cost-effective choices). The dual effect shows that the influence of AI is nuanced, not just in favour of increased sales.

4. Willingness to Continue
Again, 100% of respondents said they would like to continue using AI-based shopping services in the future. This unanimous acceptance points toward strong trust or satisfaction, and suggests that consumers see long-term value in these tools.

VI. IMPLICATIONS

Businesses should keep investing in improving AI recommendation systems, especially focusing on making them more accurate and tailored so that they shift more "slightly helpful" responses toward "most of the time helpful."

Since AI can both increase and decrease spending, companies may want to balance recommendation strategies: use them to highlight relevant products (boosting sales), but also ensure that they don't overwhelm customers or push irrelevant items—otherwise, trust and satisfaction could suffer.

Given the strong willingness to continue using AI services, there is an opportunity for brands to introduce more advanced features (e.g. better personalization, transparency about how recommendations work, feedback mechanisms) to maintain that trust and keep users engaged.

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Link of the Questionnaire
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