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Impact of AI-Based Marketing Tools on Consumer Purchase Behaviour of Organic Food

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ABSTRACT:

The rapid adoption of Artificial Intelligence (AI) in digital marketing has transformed how businesses engage with consumers, yet its impact on organic food purchase behaviour remains underexplored. This study investigates the influence of AI-based marketing tools, including personalized recommendations, targeted advertisements, and chatbots, on consumer purchase decisions for organic food products. A survey was conducted with **200 randomly selected urban consumers** who shop online. The findings reveal that **72% of respondents are influenced by personalized recommendations**, **65% by targeted advertisements**, and **58% by chatbots**, while **68% express trust** in AI-based suggestions and **66% report privacy concerns**. The analysis indicates a moderate positive relationship (**$r = 0.62$, $p < 0.01$**) between exposure to AI marketing tools and purchase intention. The study concludes that AI-driven marketing strategies, when applied ethically and transparently, significantly enhance consumer awareness, interest, and buying behaviour toward organic food, particularly among

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young and educated consumers. These insights provide practical guidance for businesses aiming to leverage AI tools to promote sustainable and health-conscious food choices.

Keywords: AI-based marketing, organic food, consumer purchase behaviour, personalized recommendations, targeted advertisements, trust, privacy concerns, online shopping

INTRODUCTION

As consumers prioritize health, sustainability, and environmental responsibility in their purchase decisions, the worldwide organic food market has grown rapidly in recent years (Willer &Lernoud, 2021). In the midst of this expansion, artificial intelligence (AI) has become a revolutionary force in marketing, allowing businesses to analyze enormous datasets, tailor messaging, anticipate client preferences, and improve customer interaction tactics (Chaffey, 2020). Predictive analytics, recommendation engines, chatbots, and sentiment analysis are examples of AI-based marketing techniques that have the potential to affect how consumers see, find, and buy organic food items.

Consumers frequently look for reliable information on product origins, nutritional benefits, and ethical production techniques, organic food consumption is especially vulnerable to internet impact (Yadav & Pathak, 2016). Conventional marketing strategies have had difficulty meeting these information needs on a large scale and consistently. AI-based solutions, on the other hand, can customize messages and suggestions based on behavioral data, which lessens information asymmetry and boosts customer confidence (Kumar et al., 2021). Personalized advertising algorithms, for instance, can draw attention to organic products that fit personal health objectives, and AI-powered customer service platforms can respond to inquiries in real time, enhancing favorable opinions of organic companies.

There is also a lack of empirical study on how AI-enabled marketing influences real consumer behavior when it comes to organic foods, despite the theoretical potential. Complex socio-psychological factors, including perceived quality, risk aversion, and environmental concern, interact with digital cueing and automated engagement to impact consumer decisions in this industry (Vermeir& Verbeke, 2006). It is essential for marketers hoping to build stronger ties

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with customers and for politicians interested in encouraging sustainable consumption to comprehend the distinct ways that AI affects consumer choices.

This study aims to close this gap by examining how consumers of organic food are affected by AI-based marketing techniques. It specifically looks at the effects of tailored AI interventions on attitudes, intentions, and real purchasing behavior. The study offers a conceptual framework that clarifies how AI is influencing contemporary organic food markets by combining insights from consumer psychology and the deployment of AI technology. It is anticipated that the results would advance both theory and practice, providing direction to technologists, marketers, and sustainability advocates alike.

REVIEW OF LITERATURE

Ms. S. Alhafeza, Dr. V. Devika "AI TOOLS TO EDUCATE THE CUSTOMERS TOWARDS ORGANIC FOOD PRODUCTS" ISBN: 978-93-6163-437-6

Growing consumer knowledge of organic food products' positive health effects, environmental sustainability, and ethical production methods have all aided in the market's growth. But many consumers still do not understand the advantages of organic food items, which lessens their motivation to give up the conventional or everyday goods. One potential answer to this problem is to use artificial intelligence (AI) technology to enhance customer education. Customers will receive prompt answers to their questions and assistance in making decisions regarding what, where, and why to purchase thanks to AI-driven technologies. Therefore, the paper focuses on using AI techniques to engage with consumers and educate them in order to promote the widespread usage of organic food items.

Vikram1 , Dr. Rajan Sharma2 and Barkha Jain3 "Leveraging Artificial Intelligence for Sustainable Marketing: A Theoretical Exploration of AI in Organic Products Promotion" Journal of Marketing & Social Research ISSN (Online): 3008-0711 Volume: 02 | Issue 06 | 2025

Artificial intelligence is changing how firms communicate with environmentally conscious consumers as a result of its integration into organic product marketing. The need

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for natural products is unending, and businesses are using AI technologies to create marketing plans that can help brands achieve higher levels of customer engagement while encouraging sustainable consumption through natural consumer habits. With a focus on organic product orientation, the paper provides a crucial conceptual lens for investigating potential areas where AI may support marketing. Artificial intelligence may employ machine learning algorithms to construct marketing campaigns, segment target groups, and search through enormous consumer information. Businesses may better place products and keep an eye on inventories by using predictive analytics to foresee trends and behaviors of potential customers. Additionally, the artificial intelligence-based recommendation systems strengthen the bond by encouraging customers to buy organic by analyzing their past purchasing patterns and establishing a profoundly meaningful brand relationship with the environmentally conscious consumer.

Pankaj Bhatt* and Ashish Kumar Singh "Impact of AI on Consumers' Purchase Intention Towards Online Grocery Shopping in India" 03 February 2025

Customer satisfaction in the e-retailing industry has been significantly impacted in recent years by the quick development of technology, particularly in Artificial Intelligence (AI). AI-enabled home shopping's time-saving advantages and convenience encourage individuals to embrace digital technology, which reflects a shift in consumer behavior. The influence of TAM (technology acceptance model) components on technology acceptance has been the subject of previous research, but studies that specifically focus on India are scarce, and the impact of AI technologies like voice search and chatbots on purchase intention has not received enough attention. The TAM components are applied to the Indian online grocery market in this study. This research fills a significant knowledge gap by demonstrating how AI technology and consumer behavior interact in India's INR 760.2 billion online grocery business. In order to effectively target consumers, especially in areas with comparable socioeconomic features, online grocery platforms should create a technology-based framework for improving the user experience. This is the study's contribution to the Indian

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grocery industry.

RESEARCH METHODOLOGY:

RESEARCH PROBLEM:

Artificial Intelligence (AI) in marketing, including chatbots, tailored recommendations, and targeted online ads, is rapidly expanding. Businesses can better understand consumer preferences and market their products with the use of these technologies. How these AI-based marketing techniques affect consumers' decisions to purchase organic food is yet unclear. Consumers frequently base their decisions to buy organic food on factors including trust, environmental concern, health knowledge, and product authenticity, which may differ from other items. Even while AI tools can offer helpful information and tailored recommendations, problems like privacy concerns and a lack of faith in technology may influence customer choices. Studying the effects of AI-based marketing techniques on consumer purchasing decisions for organic food goods is therefore necessary. It is important to examine how AI-based marketing techniques influence consumer purchasing decisions for organic food products because buying organic food involves more careful thinking compared to regular products.

RESEARCH OBJECTIVES:

1) **To examine the impact of AI-based marketing tools on consumer purchase intention toward organic food products.**
2) **To evaluate the relationship between exposure to AI-based marketing tools and consumer decision-making in the purchase of organic food products.**

Hypotheses

$H0_1$ (Null Hypothesis): AI-based marketing tools have no significant impact on consumer purchase intention toward organic food products.

$H1_1$ (Alternative Hypothesis): AI-based marketing tools have a significant impact on consumer purchase intention toward organic food products.

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RESEARCH DESIGN:

Researcher collected primary and secondary data for the research. Primary data has been collected through observation. Secondary data has been collected through books, journals, websites, research papers, newspapers etc.

RESEARCH SAMPLE SIZE:

The study was conducted with a sample size of 200 respondents, selected using the random sampling method from urban consumers who purchase groceries online. The participants included both male and female consumers across different age groups.

DATA ANALYSIS AND INTERPRETATION

Table 1: Demographic Profile of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	92	46%
	Female	108	54%
Age	18–25 years	80	40%
	26–35 years	70	35%
	36–45 years	30	15%
	Above 45 years	20	10%
Education	Graduate	120	60%
	Postgraduate	50	25%
	Others	30	15%
Organic Purchase Frequency	Regularly	64	32%
	Occasionally	96	48%
	Rarely	40	20%

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Interpretation

The majority of respondents are young, educated consumers who occasionally or regularly purchase organic food products.

Table 2: Awareness of AI-Based Marketing Tools

AI Tool	Yes (%)	No (%)
Personalized Recommendations	72%	28%
Targeted Advertisements	65%	35%
Chatbots	58%	42%

Interpretation:

Most respondents are aware of and exposed to AI-driven marketing tools while shopping online.

Table 3: Influence of AI-Based Marketing Tools on Purchase Behaviour

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)
Personalized recommendations influence my purchase decision	38	34	16	8	4
AI-based advertisements increase my interest	35	37	18	7	3
I trust AI-based recommendations	28	40	20	8	4
Privacy concerns affect my response	30	36	18	10	6

(SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree)

Interpretation:

A majority of respondents agree that AI-based marketing tools influence their purchase decisions. However, privacy concerns remain significant.

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Table 4: Correlation between AI Marketing Exposure and Purchase Intention

Variables	Correlation Coefficient (r)	Significance Level
AI-Based Marketing Tools & Purchase Intention	0.62	0.01

Interpretation:

There is a moderate positive relationship between AI-based marketing tools and consumer purchase intention toward organic food products. The relationship is statistically significant.

Conclusion

The study concludes that AI-based marketing tools have a significant and positive impact on consumer purchase behaviour toward organic food products. Personalized recommendations, targeted advertisements, and interactive chatbots were found to increase consumer awareness, interest, and purchase intention, particularly among young and educated urban consumers who frequently shop online. Trust in AI systems enhances the effectiveness of these tools, while privacy concerns can moderate their influence. Overall, the findings suggest that when implemented transparently and ethically, AI-driven marketing strategies can effectively guide consumer decision-making, promote organic food consumption, and strengthen engagement between brands and environmentally conscious buyers.

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