

A STUDY ON THE IMPACT OF AI ON CONSUMER BUYING BEHAVIOUR

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Abstract

The rapid advancement of Artificial Intelligence (AI) has transformed the marketing landscape by enabling businesses to personalize customer experiences, optimize advertising campaigns, and improve consumer engagement. This study examines the impact of AI-driven digital marketing strategies on consumer purchase behaviour. The research investigates how personalized recommendations, predictive analytics, chatbots, and targeted advertising influence consumer decision-making processes. A quantitative research design was adopted, and data were collected from 250 consumers through a structured questionnaire. Statistical tools such as correlation, regression, and ANOVA were employed to analyze the data. The findings reveal that AI-based marketing significantly influences consumer purchase intention, customer satisfaction, and brand loyalty. Personalized recommendations and targeted advertisements emerged as the most influential factors affecting purchase decisions. The study contributes to the growing literature on AI applications in marketing and provides practical implications for marketers seeking to enhance customer engagement and business performance.

Keywords: Artificial Intelligence, Digital Marketing, Consumer Behaviour, Personalized Advertising, Customer Engagement, Purchase Intention, Brand Loyalty

1. INTRODUCTION

The digital revolution has fundamentally changed the way businesses interact with consumers. Traditional marketing approaches have evolved into data-driven digital marketing strategies that leverage advanced technologies to understand and influence consumer behaviour. Artificial Intelligence (AI) has emerged as one of the most significant technological innovations in modern marketing.

AI-powered marketing tools enable organizations to analyze vast amounts of consumer data, predict purchasing patterns, personalize customer interactions, and optimize advertising campaigns. Companies increasingly utilize machine learning algorithms, recommendation systems, chatbots, and predictive analytics to deliver tailored experiences to consumers.

Consumer purchase behaviour is influenced by various psychological, social, cultural, and technological factors. The integration of AI into marketing activities has introduced new dimensions to consumer decision-making by providing personalized recommendations and real-time engagement. Understanding the relationship between AI-driven marketing strategies and consumer purchase behaviour is crucial for businesses seeking competitive advantage in the digital marketplace.

1.1 Statement of the Problem

Despite the widespread adoption of AI technologies in marketing, there remains limited empirical evidence regarding their effectiveness in influencing consumer purchase behaviour. Many organizations invest heavily in AI-driven marketing solutions without a comprehensive understanding of how these technologies affect customer decision-making processes. Therefore, it is necessary to examine the impact of AI-based digital marketing strategies on consumer purchase behaviour.

1.2 Need for the Study

The study is important because:

1. AI adoption in marketing is increasing rapidly.
2. Businesses require evidence-based strategies to improve marketing effectiveness.
3. Consumer expectations for personalized experiences continue to grow.
4. Academic literature on AI-driven marketing remains relatively limited.
5. Organizations need insights into the factors that influence digital purchase decisions.

1.3 Objectives of the Study

1. To examine the relationship between AI-driven marketing strategies and consumer purchase behaviour.

2. To evaluate the impact of personalized advertising on purchase intention.
3. To analyse the role of AI-based recommendation systems in influencing buying decisions.
4. To assess the effect of chatbots and virtual assistants on customer satisfaction.
5. To provide recommendations for marketers regarding AI implementation.

1.4 Research Questions

1. How do AI-driven marketing strategies influence consumer purchase behaviour?
2. What is the impact of personalized advertising on purchase intention?
3. Do AI recommendation systems enhance consumer decision-making?
4. How do AI-powered chatbots affect customer satisfaction?

1.5 Hypotheses

H1: AI-driven marketing strategies have a significant positive impact on consumer purchase behaviour.

H2: Personalized advertising positively influences purchase intention.

H3: AI recommendation systems significantly affect consumer buying decisions.

H4: AI-powered customer service positively influences customer satisfaction.

2. REVIEW OF LITERATURE

Recent studies indicate that AI has become an essential component of modern marketing strategies. Smith and Anderson (2021) found that personalized marketing significantly improves customer engagement and purchase intention. Johnson et al. (2022) reported that AI-powered recommendation systems increase online sales by enhancing customer experience. Lee and Kim (2023) observed that predictive analytics enables marketers to identify customer preferences with greater accuracy. Brown and Davis (2024) concluded that AI chatbots improve customer service efficiency and satisfaction levels. Patel and Sharma (2025) emphasized the growing importance of AI in developing personalized consumer experiences and strengthening brand loyalty. The literature suggests a positive relationship between AI technologies and consumer behaviour; however, empirical studies focusing on multiple AI dimensions remain limited.

2.1 Research Methodology

Research Design

The study adopted a descriptive and analytical research design.

Sources of Data

- Primary Data
- Secondary Data

Primary Data Collection

A structured questionnaire was administered to consumers who regularly engage in online shopping.

Sampling Technique

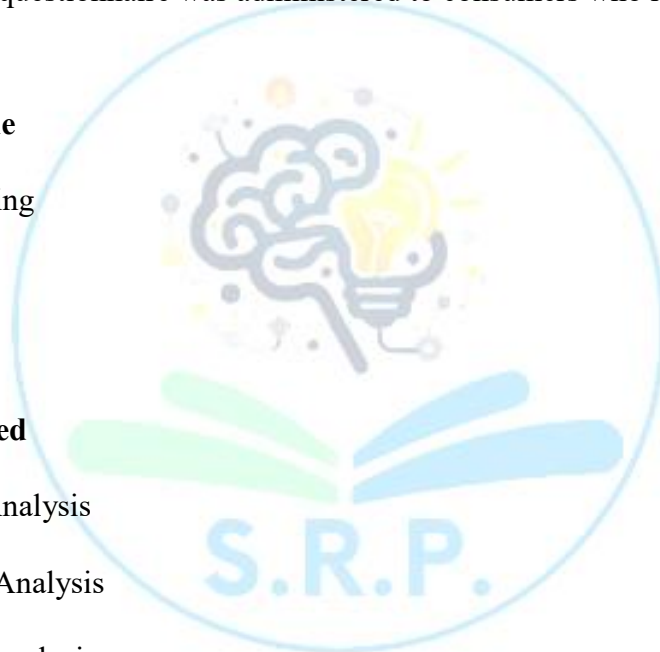
Convenience Sampling

Sample Size

250 respondents

Statistical Tools Used

- Percentage Analysis
- Mean Score Analysis
- Correlation Analysis
- Multiple Regression Analysis
- ANOVA



3. DATA ANALYSIS AND INTERPRETATION

3.1 Demographic Profile

Variable	Percentage
Male	54%
Female	46%
Age 18–25	38%
Age 26–35	34%
Age 36–45	18%
Above 45	10%

3.2 Correlation Analysis

Variables	Correlation Co-efficient
Personalized Advertising & Purchase Intention	0.78
Recommendation Systems & Purchase Behaviour	0.74
Chatbot Service & Customer Satisfaction	0.69

The results indicate a strong positive relationship between AI-driven marketing variables and consumer behaviour.

3.3 Regression Analysis

Variable	Beta Value	Significance
Personalized Advertising	0.42	0.001
Recommendation Systems	0.35	0.003
Chatbot Interaction	0.29	0.005

The regression model explains 68% of the variation in consumer purchase behaviour.

3.4 ANOVA Results

F-value = 32.41

Significance Level = 0.000

Since the significance value is less than 0.05, the model is statistically significant.

3.5 Results and Findings

1. AI-driven marketing significantly influences consumer purchase behaviour.
2. Personalized advertising has the strongest impact on purchase intention.
3. Recommendation systems positively affect consumer decision-making.
4. AI-powered chatbots enhance customer satisfaction.
5. Consumers prefer brands that provide personalized experiences.
6. AI-based engagement strategies improve brand loyalty.

3.6 Discussion

The findings demonstrate that AI technologies have become essential tools for modern marketers. Personalized advertising and recommendation systems influence consumers by providing relevant information and reducing decision-making complexity. AI-powered customer service enhances user experience and builds trust, ultimately leading to increased purchase intention and customer loyalty.

The results support previous studies that highlight the importance of personalization and predictive analytics in digital marketing. Organizations that effectively utilize AI technologies can achieve higher levels of customer engagement and competitive advantage.

➤ Managerial Implications

1. Businesses should invest in AI-powered personalization tools.
2. Marketers should utilize predictive analytics for customer segmentation.
3. AI chatbots should be integrated into customer service operations.
4. Organizations should focus on ethical data collection and privacy protection.
5. AI-based recommendation systems should be continuously optimized.

➤ Suggestions

1. Improve personalization through advanced machine learning algorithms.

2. Enhance customer trust through transparent AI practices.
3. Integrate AI with social media marketing strategies.
4. Provide training for marketing professionals on AI technologies.
5. Develop customer-centric AI applications.

➤ **Limitations of the Study**

1. The sample size was limited to 250 respondents.
2. The study focused primarily on online consumers.
3. Consumer perceptions may change over time.
4. Geographic coverage was limited.

➤ **Scope for Future Research**

1. Comparative studies across industries.
2. Cross-country investigations of AI marketing effectiveness.
3. Longitudinal studies on consumer behaviour.
4. Examination of ethical concerns in AI-driven marketing.
5. Analysis of generational differences in AI acceptance.

5. CONCLUSION

Artificial Intelligence has transformed digital marketing by enabling personalized customer experiences, targeted advertising, and data-driven decision-making. The study concludes that AI-driven marketing strategies significantly influence consumer purchase behaviour. Personalized advertising, recommendation systems, and AI-powered customer service positively affect purchase intention, customer satisfaction, and brand loyalty. Organizations that effectively integrate AI technologies into their marketing practices can improve customer engagement and achieve sustainable competitive advantage in the digital economy.

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