AI-ENABLED PERSONALIZATION AND ITS ROLE IN SHAPING CONSUMER BUYING PATTERNS

Shabeer. K. P[1] and Dr. S. Shobana[2]

[1]Research Scholar, Department of Commerce, Kamalam College of Arts and Science, Affiliated to Bharathiar University, Udumalpet, Shabeerlement@gmail.com

[2]Associate Professor and Director, Department of Commerce and Management, Kamalam College of Arts and Science, Affiliated to Bharathiar University, Udumalpet, sshobanamib@gmail.com, https://orcid.org/0009-0008-5582-7693

ABSTRACT

Artificial Intelligence (AI) has become a transformative tool in digital marketing, enabling businesses to deliver highly personalized content, advertisements, and product recommendations based on consumer preferences and behavior. This study focuses on understanding consumer awareness and perception toward AI-powered personalization and its impact on buying behavior. The research was conducted among 100 online consumers in Palakkad District using a descriptive research design. Data were collected through a structured questionnaire and analyzed using percentage analysis, weighted average ranking, and the Chi-square test. The findings reveal that most respondents are aware of AI applications in marketing and frequently encounter personalized recommendations online. Education and income were found to significantly influence perceptions toward AI personalization, while gender, age, and occupation showed no significant effect. The study suggests that marketers should use AI ethically by ensuring transparency, protecting user data, and maintaining a balance between personalization and privacy.

KEYWORDS: Artificial Intelligence, Personalization, Consumer Perception, Digital Marketing, Data Privacy, Buying Behavior, etc.,

INTRODUCTION

Artificial Intelligence (AI) has revolutionized the field of digital marketing by enabling brands to reach consumers in more intelligent, personalized, and efficient ways. Today, businesses use AI technologies such as machine learning, predictive analytics, and natural language processing to study consumer behavior, analyze vast amounts of data, and provide personalized experiences. Through AI-driven personalization, online platforms can recommend products, customize advertisements, and deliver content that matches each consumer's preferences and browsing history.

This growing use of AI has changed the dynamics of marketing communication. Consumers now frequently interact with AI-powered tools like chatbots, voice assistants, and personalized recommendation systems without even realizing it. These technologies not only enhance convenience but also improve satisfaction and brand loyalty by offering a seamless and tailored shopping experience.

However, while many consumers appreciate the comfort and relevance that AI personalization provides, there are also rising concerns regarding data privacy, transparency, and the extent of information collected by AI systems. Therefore, it becomes essential to understand how consumers perceive AI-based personalization whether they view it as beneficial, intrusive, or both.

This study aims to analyze consumer awareness and perception toward AI-driven personalization in digital marketing. It seeks to identify how demographic factors influence these perceptions and whether consumers trust brands that use AI. By understanding these insights, marketers can design more ethical, transparent, and user-friendly AI personalization strategies that align with consumer expectations and build stronger brand relationships.

STATEMENT OF THE PROBLEM

In today's digital world, consumers are constantly exposed to personalized advertisements, product suggestions, and marketing messages powered by Artificial Intelligence (AI). These AI-based systems analyze customer data and preferences to offer recommendations that match their interests. While this personalization can make shopping easier and more satisfying, it can also raise concerns about data privacy, trust, and over-dependence on technology. Many consumers may not fully understand how AI uses their information, and their reactions to such personalized marketing may differ. Some may appreciate the convenience, while others may feel uncomfortable with too much personalization. Therefore, it is important to study how AI-powered personalization actually influences consumer buying behavior, satisfaction, and trust towards brands. This will help businesses use AI more effectively and responsibly in their marketing strategies.

SIGNIFICANCE OF THE STUDY

This study is important because it helps to understand how Artificial Intelligence (AI) influences the way consumers make their buying decisions. AI-powered personalization allows businesses to provide products, advertisements, and offers that match the needs and interests of each customer. Knowing how these personalized experiences affect consumers can help companies improve their marketing strategies and build stronger relationships with customers. For marketers, this study provides useful insights into how AI tools can increase customer satisfaction, trust, and brand loyalty. For consumers, it helps to understand how their data and preferences are used to create better shopping experiences.

The study also highlights the need for maintaining privacy and ethical practices while using AI in marketing. Overall, it contributes to developing more effective and responsible digital marketing strategies.

REVIEW OF LITERATURE

Ruan, Y. et al. (2022) conducted a study to understand how AI chatbots affect customer satisfaction and decision-making across different product categories. The study compared AI-driven chatbots and human agents, finding that AI systems enhance satisfaction for routine queries and informational tasks. However, when emotional interaction or complex decision-making was required, human agents were preferred. The findings indicate that AI-powered tools can influence consumer behavior positively when designed to match customer needs and product types.

Sanjana Sharma and Vivek Menon (2023) examined the effect of AI-based personalization on online purchase decisions among e-commerce users in India. Using a descriptive research design with 250 respondents, the study found that personalized product recommendations increased purchase intention and impulse buying behavior. Consumers felt that AI suggestions saved time and made shopping more convenient. However, privacy concerns and over-targeting sometimes led to negative perceptions. The study concluded that effective personalization should balance relevance with privacy protection.

Priya Nair and Ashutosh Singh (2023) analyzed the role of AI recommendation systems in improving consumer trust and loyalty. Based on a survey of 300 online shoppers, the study revealed that accuracy and relevance of recommendations significantly enhanced trust in brands. Consumers who received personalized experiences were more likely to make repeat purchases. The research emphasized that maintaining transparency about data use is essential to strengthen consumer trust in AI-driven marketing.

Meera Patel and Rajesh Verma (2024) explored how AI-powered advertisements influence consumer perceptions and brand image. The study applied structural equation modeling (SEM) to data from 280 respondents and found that AI-driven personalization led to higher engagement and positive brand attitudes. However, excessive personalization was perceived as intrusive, reducing consumer comfort. The research suggested that marketers should optimize AI frequency and relevance to sustain favorable buying behavior.

John Mathew and Kavitha Reddy (2025) investigated the relationship between AI personalization, consumer satisfaction, and purchase intention in the e-commerce sector. Using regression analysis on data collected from 320 respondents, the study found that AI-based personalization significantly improves consumer satisfaction, which in turn boosts purchase intention. The findings highlight that

satisfaction acts as a mediating factor between personalization and buying behavior. The study recommended that online retailers adopt AI ethically while maintaining consumer trust and privacy.

OBJECTIVE OF THE STUDY

> ➢ To examine the level of consumer awareness and acceptance of AI-powered personalization in marketing.
> ➢ To study the relationship between AI personalization and consumer **perception of AI personalization**

RESEARCH METHODOLOGY

> ➢ **Research Design:** A descriptive research design is used to study the role of AI-powered personalization in influencing consumer buying behaviour and to understand how personalized marketing impacts consumer decisions and satisfaction.
> ➢ **Study Area:** The study is conducted among online consumers in **Palakkad**, where digital marketing and e-commerce usage are increasing rapidly.
> ➢ **Sampling Method:** A convenience sampling technique is adopted to select respondents who have experienced AI-based personalized advertisements, recommendations, or product suggestions on online platforms.
> ➢ **Sample Size:** A total of 100 respondents were selected for the study.
> ➢ **Data Collection:**
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> **Primary Data:** Collected through a structured questionnaire designed to gather information on consumer perception, satisfaction, and trust toward AI-based personalization in marketing.
> **Secondary Data:** Obtained from journals, articles, research papers, reports, and online sources related to artificial intelligence and consumer behaviour in digital marketing.
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> **Data Analysis:**

- Simple Percentage Analysis
- Weighted average ranking method
- Chi-Square Test

LIMITATIONS OF THE STUDY

> ➢ The study is limited to consumers in Palakkad

- ➢ The responses are based on self-reported data, which may not always be accurate.
- ➢ The sample size is limited to 100 respondents, which may not represent all online consumers.
- ➢ The study focuses mainly on AI-powered personalization in digital marketing, not on other forms of AI applications.
- ➢ Technological changes and evolving AI tools may affect future consumer behaviour patterns.

Need for the Study

1. To understand how AI-powered personalization influences consumer buying behaviour.
2. To identify consumer perceptions toward AI-based personalized marketing.
3. To examine the role of AI in improving customer engagement and brand loyalty.
4. To provide insights for marketers to design more effective AI-driven strategies.
5. To help businesses understand the balance between personalization and consumer privacy concerns.

DATA ANALYSIS AND INTERPRETATION

Table No.1 **DEMOGRAPHIC PROFILE OF THE RESPONDENTS**

Demographic Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	65	65%
	Female	35	35%
Age Group	18–25 years	30	30%
	26–35 years	40	40%
	36–45 years	20	20%
	Above 45 years	10	10%
Educational Qualification	Undergraduate	38	38%
	Postgraduate	42	42%
	Professional/Technical	20	20%
Occupation	Student	25	25%
	Private Employee	45	45%
	Government Employee	15	15%
	Self-Employed	15	15%
Monthly Income (₹)	Below 20,000	25	25%
	20,001–40,000	40	40%
	40,001–60,000	20	20%

	Above 60,000	15	15%

The demographic analysis of respondents shows that the majority of participants are male (65%), while female respondents make up 35% of the sample. In terms of age, most respondents belong to the 26–35 years age group (40%), followed by 18–25 years (30%), indicating that young and middle-aged consumers are more active in using AI-based personalized platforms. Regarding educational qualification, 42% of the respondents are postgraduates, 38% are undergraduates, and 20% hold professional or technical degrees, showing that the respondents are generally well-educated and familiar with digital technology. Occupation-wise, the largest group consists of private employees (45%), followed by students (25%), while government employees and self-employed individuals each represent 15%. This indicates that working professionals and young adults are the primary users of AI-driven personalized marketing.

In terms of income, 40% of respondents earn between ₹20,001 and ₹40,000 per month, followed by 25% earning below ₹20,000, 20% earning ₹40,001–₹60,000, and 15% earning above ₹60,000. This suggests that most respondents belong to the middle-income group, who are likely to engage in online shopping influenced by AI-based personalization. Overall, the demographic profile indicates that AI-powered personalization is most familiar among educated, working-age consumers with moderate income levels who are active in the digital marketplace.

TABLE NO. 2
AWARENESS AND PERCEPTION OF AI-POWERED PERSONALIZATION

Statements	Weighted Average Score	Total Score	Rank
1. I am aware of how Artificial Intelligence is used in digital marketing.	4.25	425	1
2. I often see personalized product recommendations on online platforms.	4.10	410	2
3. I understand that AI uses my browsing and purchase data to personalize suggestions.	3.92	392	3
4. I am aware that chatbots use AI to provide customized support.	3.80	380	4
5. I feel that AI-based personalization improves my shopping experience.	3.75	375	5
6. I know how AI advertisements are customized based on user interests.	3.64	364	6

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7. I am familiar with privacy policies related to AI-based personalization.	3.42	342	7
8. I have concerns about how my personal data is used by AI systems.	3.35	335	8
9. I trust brands that use AI for personalized recommendations.	3.20	320	9
10. I believe AI personalization always provides accurate suggestions.	3.10	310	10

The analysis of AI awareness and perception among consumers shows that most respondents are well-informed about the use of Artificial Intelligence in digital marketing, with the highest weighted average score of 4.25 (Rank 1). This indicates that consumers have good awareness of how AI functions in marketing activities. The second-highest ranked statement (Score 4.10) shows that many consumers frequently encounter personalized product recommendations on online platforms, confirming that AI-based personalization is a common experience for them. Respondents also have a fair understanding that AI uses their browsing and purchase data to make personalized suggestions (Score 3.92, Rank 3) and that chatbots use AI for customer support (Score 3.80, Rank 4). Consumers generally agree that AI-based personalization improves their shopping experience (Score 3.75, Rank 5). Awareness about how AI advertisements are customized (Score 3.64, Rank 6) and knowledge of privacy policies (Score 3.42, Rank 7) are relatively lower, indicating that many users are not fully aware of the technical and privacy aspects of AI systems.

Concerns about personal data usage (Score 3.35, Rank 8) show that while users recognize AI's benefits, they still have reservations about data security. Trust in AI-based recommendations (Score 3.20, Rank 9) and belief in their accuracy (Score 3.10, Rank 10) are the lowest-ranked, suggesting that some consumers remain cautious about relying completely on AI-driven suggestions.

TABLE NO. 3 RELATIONSHIP BETWEEN DEMOGRAPHIC VARIABLES AND PERCEPTION OF AI PERSONALIZATION

Variable	Calculated Chi-Square Value	Critical Value (0.05)	Result
Gender	0.98	3.841	No significant association
Age	6.10	7.815	No significant association
Education	9.35	7.815	Significant association
Occupation	4.20	7.815	No significant association
Income	8.40	7.815	Significant association

The chi-square analysis shows the relationship between demographic variables and the perception of AI-powered personalization among consumers. The results indicate that education and income have a significant association with the perception of AI personalization, as their calculated chi-square values (9.35 and 8.40) are higher than the critical value of 7.815 at a 0.05 significance level. This means that consumers' understanding and acceptance of AI-based personalization vary according to their educational background and income level. In contrast, variables such as gender, age, and occupation do not show any significant association, as their calculated chi-square values are lower than the respective critical values. This suggests that these factors do not have a major influence on how consumers perceive AI personalization in digital marketing.

SUGGESTIONS FOR THE STUDY

- Companies should use AI responsibly to protect customer privacy and data security.
- More transparency should be provided about how customer data is collected and used.
- Businesses should use AI to understand customer needs better and improve product recommendations.
- Regular feedback from customers can help improve the accuracy of AI-based suggestions.
- Marketers should balance personalization with ethical practices to maintain consumer trust.
- Awareness programs can be conducted to educate consumers about the benefits and safety of AI personalization.

CONCLUSION

The study reveals that Artificial Intelligence (AI)-powered personalization has a strong influence on consumer buying behaviour. Consumers tend to prefer brands that offer personalized recommendations, product suggestions, and tailored advertisements that match their preferences and needs. AI helps businesses understand customer behavior through data analysis, enabling them to deliver more relevant experiences and improve satisfaction. However, some consumers still express concerns about privacy and data security. Overall, AI-driven personalization not only enhances customer engagement and loyalty but also helps businesses increase sales and build stronger customer relationships in the digital marketplace.

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