

Impact of Artificial Intelligence (AI)-Powered Personalized Marketing on Consumer Purchase Intention among Online Shoppers in Chennai

**** Dr. S. Revathi,**

Associate Professor, Department of Commerce, Sree Muthukumaraswamy College, Chennai,
Tamil Nadu, India

**** Dr. G. Raja Priya,**

Principal & Head, Department of Commerce, Sree Muthukumaraswamy College, Chennai,
Tamil Nadu, India

Abstract

Artificial Intelligence (AI) has transformed the digital marketing landscape by enabling businesses to deliver highly personalized customer experiences through intelligent recommendation systems, predictive analytics, AI chatbots and personalized promotional campaigns. These AI-driven marketing strategies help organizations better understand customer preferences and enhance consumer engagement, ultimately influencing purchase decisions. This study examines the impact of AI-powered personalized marketing on consumer purchase intention among online shoppers in Chennai City. A descriptive research design with a quantitative approach was adopted and primary data were collected from 200 online shoppers using a structured questionnaire. The collected data were analysed using IBM SPSS Statistics 29 and AMOS 24. Statistical tools including descriptive statistics, Cronbachs Alpha, correlation, regression, ANOVA, Chi-square, Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) were employed. The findings indicate that AI-powered personalized marketing has a significant positive influence on consumer purchase intention. Personalized product recommendations, AI chatbots, predictive analytics and customer engagement were found to improve purchase decisions by increasing trust, convenience and shopping satisfaction. The study offers valuable insights for e-commerce companies, digital marketers and business organizations in designing effective AI-based marketing strategies that enhance customer experience and strengthen long-term customer relationships.

Keywords: Artificial Intelligence, Personalized Marketing, Consumer Purchase Intention, Customer Engagement, Online Shopping, Chennai.

1.Introduction

Artificial Intelligence (AI) has transformed the field of marketing by enabling businesses to create personalized shopping experiences tailored to individual consumer needs and preferences. Technologies such as recommendation systems, predictive analytics, chatbots, and virtual assistants help organizations analyse customer behaviour and deliver customized product recommendations, promotional offers, and real-time support. These AI-driven applications enhance customer engagement, improve shopping convenience, and contribute to higher levels of customer satisfaction. With the rapid expansion of e-commerce in India, leading online retailers increasingly rely on AI to understand consumer preferences, strengthen customer relationships, and improve marketing effectiveness in a highly competitive digital environment.

Chennai has experienced substantial growth in online shopping due to rising internet accessibility, widespread smartphone usage, and increasing adoption of digital payment systems. As consumers expect more personalized and seamless shopping experiences, businesses are investing in AI-powered marketing solutions to influence purchasing decisions and build long-term customer loyalty. While previous studies have explored AI adoption and consumer behaviour, limited empirical research has specifically examined the impact of AI-powered personalized marketing on the purchase intention of online shoppers in Chennai. This study addresses this gap by investigating the relationship between AI-driven personalized marketing and consumers' purchase intentions, offering insights for marketers and e-commerce firms to develop more effective customer-centric strategies.

2. Review of Literature

Artificial Intelligence (AI) has significantly transformed digital marketing by enabling businesses to deliver personalized customer experiences and improve consumer decision-making. Davis (1989) introduced the Technology Acceptance Model (TAM), which explains that perceived usefulness and perceived ease of use are the primary factors influencing the adoption of new technologies. Building on this foundation, Venkatesh et al. (2003) developed the Unified Theory of Acceptance and Use of Technology (UTAUT), identifying performance expectancy, effort expectancy, social influence and facilitating conditions as the key determinants of technology adoption. Huang and Rust (2021) further emphasized that AI has revolutionized marketing by automating customer interactions, enhancing personalization and delivering superior customer experiences through intelligent systems. Similarly, Davenport, Guha, Grewal and Bressgott (2020) reported that AI enables firms to predict customer behaviour, improve marketing efficiency, personalize communication and strengthen customer relationship management.

Recent studies have highlighted the growing role of AI-powered personalized marketing in influencing consumer behaviour. Chatterjee et al. (2022) found that AI-driven recommendation systems significantly enhance customer engagement by providing relevant and customized product suggestions, thereby positively influencing online purchase decisions. Kumar and Gupta (2023) observed that personalized digital marketing strategies improve consumer satisfaction, brand trust and purchase intention among Indian online shoppers. Likewise, Dwivedi et al. (2023) reported that AI-based marketing technologies, including predictive analytics and automated customer service, create better customer experiences that encourage higher purchase intention. Sharma and Singh (2024) further concluded that AI-powered chatbots improve response quality, shopping convenience and customer engagement, ultimately strengthening consumers' intention to purchase products online.

Consumer trust has also emerged as a crucial factor in the success of AI-powered personalized marketing. Gupta and Verma (2024) found that consumer trust significantly mediates the relationship between AI-powered personalized marketing and purchase intention, leading to greater customer loyalty and repeat purchases. More recently, Li and Wang (2025) reported that AI-driven personalization enhances customer satisfaction and purchase intention by offering customized product recommendations, personalized advertisements and real-time shopping assistance. Collectively, these studies indicate that AI-powered personalized marketing plays a vital role in improving customer engagement, building consumer trust and increasing purchase intention. The limited empirical research has examined these relationships among online shoppers in Chennai City, thereby justifying the need for the present study.

3. Research Gap

Artificial Intelligence (AI)-powered personalized marketing has received considerable attention in recent years due to its ability to enhance customer experiences and improve marketing effectiveness. Previous studies have mainly focused on technology adoption, AI applications, recommendation systems and customer engagement

in developed countries. Although several researchers have examined the influence of AI on consumer behaviour, limited studies have specifically investigated its impact on consumer purchase intention among online shoppers in Chennai City. Moreover, the combined role of AI-powered personalized marketing dimensions such as personalized recommendations, AI chatbots, predictive analytics, perceived relevance and customer engagement has not been adequately explored in the Indian context. Therefore, the present study attempts to bridge this research gap by empirically examining the relationship between AI-powered personalized marketing and consumer purchase intention among online shoppers in Chennai.

4. Need for the Study

The rapid growth of e-commerce and Artificial Intelligence has transformed the way businesses interact with consumers. Online shopping platforms increasingly use AI technologies to provide personalized recommendations, customized advertisements and intelligent customer support. Understanding how these AI-driven marketing practices influence consumer purchase intention is essential for marketers, retailers and policymakers. This study provides valuable insights into consumer behaviour and helps organizations develop effective AI-powered marketing strategies that enhance customer satisfaction, trust and long-term loyalty.

5. Statement of the Problem

The increasing adoption of Artificial Intelligence in digital marketing has changed the online shopping experience by offering personalized recommendations, targeted advertisements, predictive analytics and AI-powered customer support. Despite these advancements, many consumers remain concerned about privacy, trust, data security and the accuracy of personalized recommendations. Businesses also face challenges in understanding which AI-powered marketing strategies most effectively influence purchase intention. Therefore, this study seeks to examine the impact of AI-powered personalized marketing on consumer purchase intention among online shoppers in Chennai City.

6. Objectives of the Study

Primary Objective

- To examine the impact of AI-powered personalized marketing on consumer purchase intention among online shoppers in Chennai City.

Specific Objectives

- To examine the influence of AI-powered personalized marketing on consumer purchase intention.
- To analyse the relationship between customer engagement and purchase intention.
- To determine whether consumer trust influences purchase intention.
- To study the association between demographic variables and AI-powered personalized marketing.
- To provide suggestions for improving AI-driven marketing strategies in e-commerce.

7. Research Hypotheses

- H1: AI-powered personalized marketing has a significant positive influence on consumer purchase intention.
- H2: Customer engagement positively influences consumer purchase intention.
- H3: Consumer trust positively influences consumer purchase intention.
- H4: There is a significant relationship between AI-powered personalized marketing and customer engagement.
- H5: There is a significant association between demographic variables and AI-powered personalized marketing.

8. Conceptual Framework

The conceptual framework of the study proposes that AI-Powered Personalized Marketing is the independent variable influencing Consumer Purchase Intention, the dependent variable, among online shoppers in Chennai City. AI-powered personalized marketing is measured through five dimensions: personalized product recommendations, AI chatbots, predictive analytics, personalized advertisements and perceived relevance, which enhance the shopping experience by delivering customized and timely marketing content. Customer Engagement, comprising interaction, satisfaction, participation and emotional connection, acts as a mediating variable by strengthening the relationship between AI-powered personalized marketing and purchase intention. Consumer Trust, measured through privacy protection, data security, reliability and transparency, serves as a moderating variable, influencing the strength of the relationship between customer engagement and purchase intention. The framework assumes that effective AI-powered personalized marketing increases customer engagement and builds consumer trust, ultimately leading to higher purchase decisions, repurchase intention, recommendation intention and brand preference among online shoppers.

9. Research Methodology

The study employed a descriptive research design with a quantitative approach to examine the effect of AI-powered personalized marketing on the purchase intention of online shoppers in Chennai City. Primary data were collected from 200 respondents using a structured questionnaire, while secondary data were sourced from books, journals, conference papers, websites, and industry reports. The questionnaire included demographic information and statements measuring AI-powered personalized marketing, customer engagement, consumer trust, and purchase intention using a five-point Likert scale. Convenience sampling was used to select respondents, and the survey was conducted through both online and offline modes. A pilot study was carried out to verify the clarity and reliability of the research instrument, and respondents participated voluntarily with assured confidentiality. The collected data were analysed using IBM SPSS Statistics 29 and AMOS 24. Statistical tools such as descriptive statistics, percentage analysis, Cronbach's Alpha, Chi-square, correlation, multiple regression, ANOVA, Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM) were applied to test the research objectives and hypotheses.

10. Data Analysis and Interpretation

Table 1. Demographic Profile of Respondents

Variable	Category	Frequency	Percentage
Gender	Male	116	58.0
	Female	84	42.0
Age	18–25 Years	48	24.0
	26–35 Years	82	41.0
	36–45 Years	46	23.0
	Above 45 Years	24	12.0
Education	Undergraduate	56	28.0
	Postgraduate	94	47.0
	Professional Degree	38	19.0
	Doctorate	12	6.0
Occupation	Student	42	21.0
	Private Employee	88	44.0
	Government Employee	30	15.0
	Business	24	12.0
	Self-employed	16	8.0
Monthly Income	Below ₹25,000	46	23.0
	₹25,001–₹50,000	72	36.0
	₹50,001–₹75,000	48	24.0
	Above ₹75,000	34	17.0
Online Shopping Frequency	Weekly	82	41.0
	Monthly	64	32.0
	Occasionally	36	18.0
	Rarely	18	9.0

Source: Primary Data

Interpretation

The demographic analysis shows that the majority of respondents were male (58%), while 42% were female. Most respondents belonged to the 26–35 years age group (41%), indicating that young adults are the primary users of online shopping platforms. A large proportion of respondents were postgraduates (47%) and private-sector employees (44%), with 36% earning between ₹25,001 and ₹50,000 per month. Additionally, 41% of respondents reported shopping online weekly, reflecting a high level of engagement with e-commerce platforms.

Table 2. Descriptive Statistics

Variable	Mean	Standard Deviation
AI-Powered Personalized Marketing	4.18	0.58
Customer Engagement	4.06	0.61
Consumer Trust	3.98	0.65
Consumer Purchase Intention	4.14	0.56

Source: Computed Data

Interpretation

The descriptive statistics indicate that respondents have a high level of agreement with all the study variables. AI-Powered Personalized Marketing recorded the highest mean score ($M = 4.18$), followed by Consumer Purchase Intention ($M = 4.14$). Customer Engagement ($M = 4.06$) and Consumer Trust ($M = 3.98$) also showed favourable responses. The relatively low standard deviation values indicate consistency in respondent's opinions.

Reliability Analysis (Cronbachs Alpha)

Construct	Number of Items	Cronbachs Alpha
AI-Powered Personalized Marketing	10	0.928
Customer Engagement	6	0.901
Consumer Trust	5	0.894
Consumer Purchase Intention	6	0.913
Overall Scale	27	0.921

Interpretation

Cronbachs Alpha values ranged from 0.894 to 0.928, while the overall reliability coefficient was 0.921, indicating excellent internal consistency. Therefore, the questionnaire was considered reliable for further statistical analysis.

Table 3. Correlation Analysis

Variables	AI Marketing	Customer Engagement	Consumer Trust	Purchase Intention
AI Marketing	1.000			
Customer Engagement	.742**	1.000		
Consumer Trust	.689**	.701**	1.000	
Purchase Intention	.781**	.754**	.719**	1.000

Source: Computed Data

$p < 0.01$

Interpretation

The correlation analysis shows a strong positive relationship between AI-Powered Personalized Marketing and Consumer Purchase Intention ($r = 0.781$). Customer Engagement ($r = 0.754$) and Consumer Trust ($r = 0.719$) also exhibit significant positive relationships with Purchase Intention. Therefore, all variables are positively associated.

Table 4. Multiple Regression Analysis

Dependent Variable: Consumer Purchase Intention

Predictor	Beta	t-value	Sig.
AI-Powered Personalized Marketing	0.612	10.84	.000
Customer Engagement	0.284	5.43	.000
Consumer Trust	0.197	3.88	.001

Model Summary

R	R ²	Adjusted R ²	F	Sig.
0.842	0.709	0.705	159.36	.000

Source: Computed Data

Interpretation

The regression analysis indicates that AI-Powered Personalized Marketing, Customer Engagement and Consumer Trust significantly predict Consumer Purchase Intention. The model explains 70.9% of the variation in Purchase Intention ($R^2 = 0.709$). Among the predictors, AI-Powered Personalized Marketing has the strongest influence ($\beta = 0.612$).

Table 5. One-Way ANOVA

Monthly Income and Purchase Intention

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14.486	3	4.829	6.472	.000
Within Groups	146.351	196	.747		
Total	160.837	199			

Interpretation

The ANOVA results indicate a significant difference in Consumer Purchase Intention across different monthly income groups ($F = 6.472$, $p < 0.001$). Hence, monthly income significantly influences purchase intention.

Table 6. Chi-Square Test

Gender $\times$ Purchase Intention

Chi-Square	Df	Sig.
11.284	4	.024

Source: Computed Data

Interpretation

Since the significance value ($p = 0.024$) is less than 0.05, there is a significant association between gender and Consumer Purchase Intention. Thus, purchase intention differs across gender groups.

Table 7. Confirmatory Factor Analysis (CFA)

Standardized Factor Loadings

Construct	Loading Range
AI-Powered Personalized Marketing	0.78–0.91
Customer Engagement	0.76–0.88
Consumer Trust	0.75–0.89
Consumer Purchase Intention	0.80–0.92

Composite Reliability (CR) and Average Variance Extracted (AVE)

Construct	CR	AVE
AI Marketing	0.931	0.692

Construct	CR	AVE
Customer Engagement	0.912	0.671
Consumer Trust	0.901	0.648
Purchase Intention	0.926	0.701

Model Fit Indices

Index	Obtained Value	Recommended Value
χ^2/df	2.18	<3.00
GFI	0.941	>0.90
AGFI	0.917	>0.90
CFI	0.972	>0.90
TLI	0.968	>0.90
RMSEA	0.043	<0.08
SRMR	0.037	<0.08

Source: Computed Data

Interpretation

The CFA results demonstrate excellent model fit. All standardized factor loadings exceed 0.70, while Composite Reliability and AVE values are above the recommended thresholds. Therefore, the measurement model possesses good reliability, convergent validity and construct validity.

Table 8. Structural Equation Modelling (SEM)

Structural Path Analysis

Relationship	Standardized β	Critical Ratio	p-value
AI Marketing → Customer Engagement	0.78	12.83	.000
AI Marketing → Consumer Trust	0.69	10.42	.000
AI Marketing → Purchase Intention	0.61	9.64	.000
Customer Engagement → Purchase Intention	0.32	5.47	.000
Consumer Trust → Purchase Intention	0.24	4.11	.001

Coefficient of Determination (R^2)

Dependent Variable	R ²
Customer Engagement	0.61
Consumer Trust	0.48
Consumer Purchase Intention	0.74

Interpretation

The SEM analysis confirms that AI-Powered Personalized Marketing has a significant positive influence on Customer Engagement, Consumer Trust and Consumer Purchase Intention. Customer Engagement and Consumer Trust also positively affect Purchase Intention. The model explains 74% of the variance in Consumer Purchase Intention, indicating strong predictive power. These findings support all the proposed hypotheses.

11. Results and Discussion

The findings of the study reveal that AI-Powered Personalized Marketing has a significant positive influence on Consumer Purchase Intention among online shoppers in Chennai City. The descriptive statistics indicate that respondents exhibited high levels of agreement regarding AI-powered personalized marketing practices (Mean = 4.18) and purchase intention (Mean = 4.14), suggesting that consumers generally appreciate personalized recommendations, AI chatbots, predictive analytics and customized advertisements. The reliability analysis confirmed excellent internal consistency, with Cronbachs Alpha values ranging from 0.894 to 0.928, indicating that the measurement scales were reliable.

The correlation analysis revealed strong positive relationships among AI-powered personalized marketing, customer engagement, consumer trust and purchase intention. The regression analysis further established that AI-powered personalized marketing is the strongest predictor of purchase intention ($\beta = 0.612$, $p < 0.001$). The model explained 70.9% of the variance in consumer purchase intention ($R^2 = 0.709$). Furthermore, the CFA results confirmed satisfactory construct validity and reliability, while the SEM analysis demonstrated that AI-powered personalized marketing significantly improves customer engagement and consumer trust, which in turn enhance purchase intention.

These findings are consistent with previous studies by Davis (1989), Venkatesh et al. (2003), Davenport et al. (2020), Huang and Rust (2021) and Dwivedi et al. (2023), which reported that AI technologies improve customer experiences by delivering personalized recommendations and efficient customer interactions. The study confirms that AI-powered marketing not only enhances customer satisfaction but also strengthens consumer confidence and encourages repeat purchases.

12. Major Findings

- ❖ AI-powered personalized marketing has a significant positive impact on consumer purchase intention.
- ❖ Personalized product recommendations improve customers willingness to purchase products online.
- ❖ AI chatbots significantly enhance customer engagement and shopping convenience.
- ❖ Customer engagement positively influences consumer purchase intention.
- ❖ Consumer trust plays a significant role in strengthening purchase intention.

- ❖ AI-powered personalized marketing is the strongest predictor of purchase intention among all study variables.
- ❖ The SEM model explained 74% of the variance in consumer purchase intention.
- ❖ Monthly income and gender showed significant associations with purchase intention.

13. Suggestions

- E-commerce companies should invest in advanced AI algorithms to provide highly accurate and personalized product recommendations.
- Businesses should improve AI chatbot capabilities to deliver instant, reliable and customer-friendly support.
- Organizations should strengthen data privacy and cybersecurity measures to enhance consumer trust.
- Companies should use predictive analytics to understand customer preferences and provide customized marketing campaigns.
- Digital marketers should regularly evaluate AI performance and customer feedback to improve personalization strategies.
- Businesses should conduct awareness campaigns to educate consumers about the benefits and safety of AI-powered personalized services.
- Online retailers should integrate AI with loyalty programs to improve customer retention and repeat purchases.

14. Managerial Implications

The findings provide valuable insights for e-commerce companies, digital marketers, retailers and technology providers. Organizations should focus on implementing AI-powered personalized marketing strategies to improve customer experience, increase engagement and enhance purchase intention. AI-based recommendation systems and intelligent chatbots should be continuously updated to provide accurate product suggestions and timely customer support. Managers should also prioritize consumer trust by ensuring transparency in AI decision-making and protecting customer data. These initiatives can help businesses achieve higher customer satisfaction, stronger brand loyalty and sustainable competitive advantage.

15. Theoretical Implications

This study contributes to the existing literature by extending the application of the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) in the context of AI-powered personalized marketing. It demonstrates that AI technologies influence purchase intention directly as well as indirectly through customer engagement and consumer trust. The study provides empirical evidence from Chennai City, thereby enriching the understanding of AI-driven consumer behaviour in the Indian e-commerce sector.

16. Limitations of the Study

- The study was confined to 200 online shoppers in Chennai City, limiting the generalizability of the findings.
- Convenience sampling was used, which may not fully represent the entire population of online shoppers.
- The study adopted a cross-sectional research design; therefore, changes in consumer behaviour over time were not examined.
- The study relied on self-reported responses, which may be influenced by personal bias.
- Other factors such as website quality, price sensitivity and brand image were not included in the research model.

17. Future Scope

Future studies may include respondents from different cities and states to compare consumer behaviour across regions. Researchers may employ longitudinal studies to examine changes in AI adoption over time. Additional variables such as perceived risk, digital literacy, brand loyalty, customer satisfaction, privacy concerns and perceived value may be incorporated into future research models. Advanced analytical techniques such as PLS-SEM, machine learning and artificial neural networks can also be used to predict consumer purchase behaviour more effectively.

18. Conclusion

Artificial Intelligence has become an essential component of modern digital marketing by enabling businesses to provide personalized customer experiences. The findings of the present study demonstrate that AI-powered personalized marketing significantly influences consumer purchase intention among online shoppers in Chennai City. Personalized recommendations, AI chatbots, predictive analytics and customer engagement improve shopping convenience, customer satisfaction and trust, ultimately encouraging consumers to make purchasing decisions. The study also confirms that customer engagement and consumer trust strengthen the effectiveness of AI-driven marketing strategies. Therefore, organizations should continue investing in AI technologies while ensuring transparency, data security and customer-centric marketing practices. These efforts will not only improve business performance but also foster long-term customer relationships and sustainable growth in the digital marketplace.

References

- Chaffey, D. (2023). *Digital Marketing: Strategy, Implementation and Practice* (9th ed.). Pearson.
- Chatterjee, S., Rana, N. P., Dwivedi, Y. K., & Sharma, A. (2022). Artificial intelligence and customer engagement in digital marketing. *Journal of Business Research*, 145, 638–650.
- Davenport, T. H., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48(1), 24–42.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- Dwivedi, Y. K., Hughes, L., Ismagilova, E., et al. (2023). Artificial intelligence adoption in marketing. *International Journal of Information Management*, 71, 102642.

- Grewal, D., Roggeveen, A. L., & Nordfält, J. (2017). The future of retailing. *Journal of Retailing*, 93(1), 1–6.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th ed.). Cengage.
- Huang, M. H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science*, 49(1), 30–50.
- Kumar, V., & Gupta, S. (2023). AI-enabled personalized marketing and consumer purchase intention. *Journal of Retailing and Consumer Services*, 72, 103246.
- Li, Y., & Wang, X. (2025). AI personalization and online consumer behaviour. *Journal of Interactive Marketing*, 69, 100–116.
- Payne, A., & Frow, P. (2017). Relationship marketing. *Journal of Services Marketing*, 31(1), 11–15.
- Rust, R. T., & Huang, M. H. (2021). The service revolution and AI. *Service Science*, 13(3), 145–152.
- Sharma, S., & Singh, R. (2024). AI chatbots and customer engagement in e-commerce. *Electronic Commerce Research*, 24(2), 411–430.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478.
- Verhoef, P. C., Kooge, E., & Walk, N. (2021). *Creating Value with Big Data Analytics*. Routledge.

Copyright & License:

© Authors retain the copyright of this article. This work is published under the Creative Commons Attribution 4.0 International License (CC BY 4.0), permitting unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.