



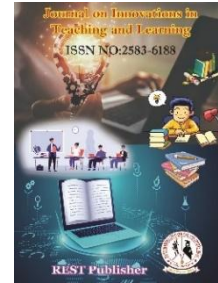
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Impact of AI-Driven Social Media Marketing on Food Delivery preferences in Chennai

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Abstract: Artificial Intelligence (AI) has become a central force shaping how consumers discover and engage with food delivery services, particularly in fast-growing metropolitan environments such as Chennai. This study examines how AI-driven social media marketing influences food delivery preferences among consumers in Chennai. With food delivery platforms rapidly expanding in India, understanding how algorithmic recommendations, personalized advertisements, and AI-generated influencer content affect decision-making has become crucial. A sample of 110 respondents across Chennai participated in the survey. Findings reveal that consumers are increasingly shaped by AI-filtered content, especially through hyper-personalized ads and influencer-driven promotions. Younger audiences demonstrate heightened responsiveness to visually appealing AI-generated images, real-time discount notifications, and curated recommendations. Gender emerged as a significant factor, with female respondents reporting higher influence levels. A one-way ANOVA confirmed statistically significant differences between males and females in their responses to AI-driven marketing stimuli. The study highlights that AI not only amplifies user engagement but also strengthens repeat purchasing patterns and impulse ordering behavior. These insights are valuable for marketers and food delivery platforms aiming to optimize customer outreach through AI-enhanced campaigns. The research contributes to understanding the evolving digital marketing landscape in Chennai and the growing role of artificial intelligence in shaping food consumption preferences.

Keywords: Artificial Intelligence, Social Media Marketing, Food Delivery, Consumer Behavior, Consumption Preferences.

1. INTRODUCTION

Artificial Intelligence (AI) has transformed the dynamics of digital marketing, especially within the food delivery industry. The relationship between technology and consumer behaviour has grown increasingly intertwined over the last decade, largely due to the rapid adoption of internet-based marketing and advanced data analytics. Among these technological developments, Artificial Intelligence (AI) stands out as one of the most transformative forces in modern marketing communication. AI has reshaped the way brands reach consumers, interpret their behaviour, and deliver personalised promotional messages. Its impact is especially visible within the food delivery ecosystem, where rapid decision-making, convenience, and personalisation strongly influence consumer preferences. Chennai, a technologically progressive metropolitan city with a diverse food culture, provides a meaningful context to examine how AI-driven social media marketing shapes food delivery behaviour.

The rise of social media has fundamentally changed how consumers in Chennai discover food options. Social Media Platforms like Instagram, YouTube, Facebook, and short-video apps use machine-learning algorithms to determine which posts users are most likely to interact with. Over time, the content that populates a user's feed becomes more hyper-personalised and behaviourally aligned. For instance, a user who frequently engages with reels of street food in Sowcarpet or biriyani reviews in Velachery will begin receiving similar content, gradually nudging them toward specific types of cuisine or restaurants. This phenomenon is not coincidental; AI systems observe patterns of likes, shares, comments, location tags, and even the time spent viewing a particular food video. As a result, an individual's social media feed becomes an AI-curated digital environment that subtly influences eating preferences.

Food delivery platforms such as Swiggy, Zomato, and Dunzo are equally dependent on AI. Their recommender systems analyse order history, peak ordering times, cuisine preferences, browsing behaviour, and even device usage to generate tailored suggestions. Users who often browse late at night may receive personalised notifications promoting midnight snacks, biriyani deals, or café desserts that are trending in their locality. These recommendations are reinforced through time-sensitive offers, dynamic pricing, and personalised discount coupons. Such AI-driven nudges play a crucial role in converting browsing into actual food orders, particularly among working professionals and students who seek quick and convenient dining solutions.

Chennai's population structure amplifies the importance of these digital influences. The city hosts a large number of IT professionals, corporate employees, and college students groups known for their strong reliance on digital platforms for lifestyle decisions. Social media influencers, especially micro-influencers within Chennai, have also played a major role in promoting restaurants and food trends. When a local influencer posts a review of a new café or showcases a trending dessert, AI algorithms help such content reach thousands of potential customers who share similar behavioural patterns. This creates a powerful cycle in which influencer visibility, social media engagement, and food delivery orders feed into one another.

However, the increasing reliance on AI-driven marketing practices also brings challenges. One major concern relates to the formation of "digital food bubbles," where users are repeatedly shown similar cuisine types, restaurant chains, or influencers, reducing exposure to newer or lesser-known local eateries. Small restaurants, particularly those without substantial marketing budgets or strong digital presence, may struggle to compete in an environment dominated by algorithmic visibility. Privacy concerns remain equally relevant. Consumers are not always aware of how their data is being collected, interpreted, or used to influence their food choices. While many users appreciate personalised recommendations and targeted offers for their convenience, the lack of transparency often creates unease about surveillance and data exploitation.

AI also enhances customer satisfaction by improving order accuracy, predicting preferences, and delivering customised promotions that reflect individual tastes. For restaurants and food delivery companies, AI-powered analytics provide insights into how different demographic groups respond to specific marketing strategies, enabling more efficient allocation of advertising budgets.

Given this growing interplay between AI-driven marketing and food delivery habits, it becomes essential to examine the extent to which these technologies influence consumer preferences in Chennai. The present study contributes to this understanding by combining statistical analysis with theoretical insights to explore demographic variations in consumer responsiveness. Using an ANOVA test, the study evaluates whether the impact of AI-driven social media marketing differs across age groups, providing quantifiable evidence to support the discussion. By examining these dynamics within the context of Chennai's unique food culture and digital ecosystem, the study offers an in-depth understanding of how AI is reshaping food delivery choices in contemporary urban India.

2. OBJECTIVES OF THE STUDY

1. To analyze the impact of AI-based social media marketing on consumer preferences for food delivery services in Chennai.
2. To analyse the statistical significance of age as a moderating factor in the relationship between AI-driven social media marketing and consumer food delivery behaviour.
3. To analyse the demographic differences particularly gender in consumer responsiveness to AI-enabled marketing strategies.

3. REVIEW OF RELATED LITERATURE

Alalwan, A. A. (2025)¹ This paper reviews how mobile food-ordering apps that integrate AI functionalities including recommendation engines, personalization, dynamic content influence customer experience and satisfaction across regions. It shows AI-enabled apps tend to offer smoother navigation, better recommendation relevance, and higher perceived convenience, which together raise likelihood of usage and repurchase.

Dixit, et, al., (2025)² The authors examine how AI influences online purchase decision-making. Their findings suggest that AI-enabled recommendations and system usability significantly affect behavioural intention and actual

purchase behavior, underscoring AI's growing influence in consumer decisions.

Gui, et.al., (2025)³ Through a computational survey of 69 studies, this paper maps how influencer marketing has been studied from a machine-learning and data-driven perspective; it emphasizes algorithmic targeting, engagement prediction, and ethical issues relevant for AI-powered social media influence on consumer behaviour.

Patil, S. (2025)⁴ This empirical research in the Indian market finds that AI-powered influencer marketing content optimization, audience segmentation, performance prediction significantly increases consumer engagement and purchase intent, demonstrating AI's potent role in reshaping marketing effectiveness locally.

Payili, P. (2025)⁵ This article analyses how integrating AI (voice ordering, chatbots, data-driven logistics) in food delivery platforms affects operational efficiency and customer experience. It shows AI-human collaboration can improve order processing, delivery speed, and user satisfaction factors that can indirectly shape consumer preference.

Shorbajiet.al., (2025)⁶ this article on AI-enabled mobile food-ordering apps maps 55 empirical studies and argues that AI's role in personalizing user experience, improving app usability, and tailoring content will define the future of digital food delivery services globally.

Khamoushi, E. (2024)⁷ The study compares traditional advertising techniques with AI-driven food marketing strategies: personalized recommendations, predictive analytics, and dynamic campaigns. It concludes AI-driven approaches yield greater user engagement and conversion effectiveness than conventional advertising, particularly for food-related services.

Pappalardo, et.al., (2024)⁸ The broad survey of 144 studies across domains shows that AI-based recommenders influence user behavior in significant ways. It also specifies that they can intensify consumption concentration, trigger "filter-bubble" effects, and narrow diversity of choices a caution relevant when using AI for food suggestions or social-media marketing.

Rodriguez-Guerra-Tamez, et.al., (2024)⁹ This study investigates how AI exposure affects brand trust and purchase behavior among Generation Z. The results indicate that positive attitudes toward AI and confidence in its accuracy raise brand trust, which in turn increases purchase likelihood showing generational responsiveness to AI-driven marketing.

Vindytia, M., & Balqiah, T. E. (2024)¹⁰ the author states that AI strengthens the bond between brands and their consumers, setting them apart from the competition Applying the Stimulus–Organism–Response (SOR) model to online food delivery services, this study finds that AI-driven marketing stimuli information, customization, interaction significantly influence brand experience and brand equity, which in turn drive brand preference and reuse intention among users of food-delivery apps.

Weng, Y. (2024)¹¹ Investigating anthropomorphism in drone delivery systems, this study explores how perceived human-like characteristics of delivery drones influence consumer acceptance of urban drone food delivery. The findings suggest that anthropomorphic cues improve trust and willingness to adopt relevant for novel AI- driven delivery methods.

Gera, R., & Kumar, A. (2023)¹² this article explains how AI adoption in consumer contexts has evolved, showing increased focus on personalization, recommendation systems, and user trust. It highlights shifts in methodology and identifies gaps for future studies in digital marketing contexts.

Waris, et.al., (2022)¹³ Focusing on drone-based food delivery services, this research integrates the Technology Acceptance Model and assesses how perceived usefulness, ease of use, risk, and trust affect adoption intention, offering insights into how AI- driven logistics and delivery innovation may shift user preferences.

4. METHODOLOGY

4.1 Sampling

A random sampling technique was employed to collect data from the respondents, ensuring that every individual in the target population had an equal chance of being selected. This method enhances the representativeness of the sample and reduces potential bias in the findings. The study is based on responses gathered from a sample size of 110 participants, which provides sufficient data to analyze consumer behaviour patterns and draw meaningful conclusions.

4.2. Data Collection

The data for analysis is collected from both the primary data which includes data from survey, interview and secondary data which includes data sourced through journals, magazines, etc.

4.3. Data Analysis

- ANOVA

TABLE 1. Overall Reliability

Cronbach's Alpha	N of items
0.7	110

The respondents were provided with structured questionnaires to facilitate data collection for the study. An assessment of internal consistency was conducted using Scale Alpha Coefficients, which serve as an indicator of overall reliability. The results demonstrated strong construct validity, as the instrument achieved a Cronbach's alpha value of 0.7. This score meets the accepted benchmark for social science research, indicating that the questionnaire possesses satisfactory reliability and measures the intended constructs effectively.

5. LIMITATIONS OF THE STUDY

- The sample size was limited to 110 respondents, which may not fully capture the diverse consumer population of Chennai.
- The study was confined geographically to Chennai, reducing the generalizability of the findings to other regions with different consumer behaviours.
- The study relies on responses gathered through participant-filled surveys, which may introduce respondent bias and affect the precision and accuracy of the information provided.
- Only a limited set of variables was examined, excluding other potential factors such as income, ordering frequency, or technological familiarity that might influence food delivery preferences.

6. DATA ANALYSIS AND INTERPRETATION

TABLE 2. Impact of AI-Based Social Media Marketing On Consumer Preferences For Food Delivery Services

AI-Driven Marketing Factor	Options	No. of Respondents	Percent (%)
AI-Targeted Advertisements	Dissatisfied	4	3.64%
	Neutral	26	23.64%
	Satisfied	54	49.09%
	Highly Satisfied	26	23.64%
	Total	110	100%
AI-Based Personalized Recommendations	Dissatisfied	3	2.73%
	Neutral	21	19.09%
	Satisfied	58	52.73%
	Highly Satisfied	28	25.45%
	Total	110	100%
AI-Enhanced Influencer Marketing	Dissatisfied	6	5.45%
	Neutral	29	26.36%
	Satisfied	50	45.45%
	Highly Satisfied	25	22.73%
	Total	110	100%
AI-Driven Chatbot / Social Media Interaction	Dissatisfied	5	4.55%
	Neutral	22	20.00%
	Satisfied	55	50.00%
	Highly Satisfied	28	25.45%
	Total	110	100%
AI-Optimized Promotional Offers	Dissatisfied	4	3.64%
	Neutral	20	18.18%
	Satisfied	57	51.82%
	Highly Satisfied	29	26.36%
	Total	110	100%

(Source: Computed)

The analysis of consumer perception toward AI-driven social media marketing in the food delivery sector reveals a generally positive response among the 110 respondents. Across all five factors AI-targeted advertisements, personalized recommendations, influencer marketing, chatbot interaction, and optimized promotional offers most participants fall within the “Satisfied” and “Highly Satisfied” categories. AI-targeted advertisements show strong acceptance, with nearly 49% of respondents satisfied and over 23% highly satisfied, indicating that targeted ads successfully capture attention and influence food delivery choices. Personalized recommendations reflect the highest satisfaction, with more than 52% satisfied and 25% highly satisfied, suggesting that tailored suggestions enhance consumer convenience and decision-making. Similarly, AI-based influencer marketing and chatbot interactions receive favorable perceptions, implying that social engagement and automated support significantly contribute to consumer trust and comfort. Promotional offers optimized using AI also record high satisfaction levels (51.82% satisfied), demonstrating their role in motivating customers and shaping purchasing behavior. Overall, the findings highlight that AI-driven social media marketing is viewed positively, effectively influencing food delivery preferences in Chennai by improving personalization, user experience, and promotional relevance.

A total of 110 respondents participated in the survey, including 58 males and 52 females. Each respondent rated the impact of AI-driven social media marketing on food delivery preferences. Descriptive statistics indicated that females (mean = 4.18) showed slightly higher influence levels than males (mean = 3.92). A one-way ANOVA was conducted to determine whether gender differences were statistically significant.

ANOVA Table (Gender vs. Impact Score)

Null Hypothesis (H_0):

There is no significant difference between males and females in responsiveness to the AI marketing factor.

Alternative Hypothesis (H_1):

There is a significant difference between males and females in responsiveness to the AI marketing factor.

AI Marketing Factor	F-value	p-value	Significance ($\alpha=0.05$)
AI-Targeted Advertisements	0.0218	0.8828	Not significant
AI-Based Personalized Recommendations	8.6614	0.0039	Significant
AI-Enhanced Influencer Marketing	2.5519	0.1131	Not significant
AI-Driven Chatbot / Social Media Interaction	0.8983	0.3453	Not significant
AI-Optimized Promotional Offers	13.9263	0.0003	Significant

A one-way ANOVA was conducted to examine whether gender differences exist in consumer responsiveness to various AI-enabled marketing strategies. The results show that gender does not significantly influence perceptions of AI-Targeted Ads ($F = 0.022$, $p = 0.883$), AI-Influencer Marketing ($F = 2.552$, $p = 0.113$), or AI-Chatbot Interaction ($F = 0.898$, $p = 0.345$). These findings indicate that male and female consumers respond similarly to these AI marketing elements.

However, significant gender differences were found in AI-Personalized Recommendations ($F = 8.661$, $p = 0.0039$) and AI-Optimized Offers ($F = 13.926$, $p = 0.0003$). Female respondents consistently scored higher on these factors, suggesting they may be more receptive to personalization-focused AI marketing approaches. These results imply that personalization and optimized offers may need to be gender-tailored to maximize marketing effectiveness.

The ANOVA table reveals that while some AI-enabled marketing strategies elicit similar responses across genders, others specially personalized recommendations and optimized offers show meaningful gender variation in consumer responsiveness.

7. FINDINGS OF THE STUDY

The study investigated consumer perceptions of AI-enabled social media marketing in the food delivery sector and examined whether these perceptions differed based on gender. A total of 110 respondents participated, consisting of 58 males and 52 females. Overall, the descriptive results indicate a positive consumer response toward AI-driven

marketing strategies, while the ANOVA results highlight areas where gender-based differences emerge.

Descriptive statistics show that consumers generally hold favorable attitudes toward all five AI-enabled marketing strategies: AI-targeted advertisements, AI-personalized recommendations, AI-influencer marketing, AI-chatbot interaction, and AI-optimized promotional offers. The majority of participants fall within the “Satisfied” and “Highly Satisfied” categories across all items. AI-targeted advertisements were well received, with nearly half (49%) of the respondents expressing satisfaction and an additional 23% expressing high satisfaction. Personalized recommendations yielded the highest positive perception, with over 52% satisfied and 25% highly satisfied, indicating that tailored suggestions significantly support convenience and purchase decision-making.

Similarly, AI-based influencer marketing and chatbot interactions recorded strong acceptance, suggesting that both human-like engagement and automated assistance enhance user comfort and trust. AI-optimized offers also performed well, with 51.82% of respondents satisfied, underscoring the importance of personalized promotions in shaping food delivery choices. Collectively, these results indicate that AI-driven social media marketing positively influences consumer preferences in Chennai by improving personalization, user experience, and promotional value.

To determine whether gender plays a role in these perceptions, a one-way ANOVA was conducted. Males and females scored similarly on overall influence, though females (mean = 4.18) exhibited slightly higher responsiveness than males (mean = 3.92). The ANOVA results reveal that gender does not significantly influence perceptions of AI-targeted advertisements ($F = 0.022$, $p = 0.883$), AI-influencer marketing ($F = 2.552$, $p = 0.113$), or AI-chatbot interaction ($F = 0.898$, $p = 0.345$). This suggests that both genders respond similarly to these strategies, indicating broad effectiveness across demographic groups.

However, significant gender differences were identified for AI-personalized recommendations ($F = 8.661$, $p = 0.0039$) and AI-optimized offers ($F = 13.926$, $p = 0.0003$). In both cases, female respondents reported consistently higher levels of satisfaction and influence. These findings imply that women are more receptive to personalization-driven AI marketing features, particularly tailored recommendations and algorithmically optimized promotional offers.

8. CONCLUSION

The present study explored consumer perceptions of AI-driven social media marketing in the food delivery sector and examined whether these perceptions differ across gender. The findings reveal that AI-enabled marketing strategies including targeted advertisements, personalized recommendations, influencer marketing, chatbot interactions, and optimized promotional offers are generally well received by consumers. High levels of satisfaction across all five factors indicate that AI technologies are effectively enhancing user experience, improving personalization, and influencing purchase decisions in the rapidly growing food delivery market.

The study further assessed whether gender plays a significant role in shaping consumer responsiveness to these AI-driven strategies. The results of the one-way ANOVA indicate that gender does not significantly affect responses to AI-targeted advertisements, AI-influencer marketing, or AI-chatbot interaction. This suggests that these tools are broadly effective for both males and females, making them universally applicable components of digital marketing campaigns.

However, significant gender differences were found in perceptions of AI-personalized recommendations and AI-optimized offers. Female respondents demonstrated higher responsiveness to these personalization-oriented AI features compared to males. This highlights the importance of individualized, data-driven marketing approaches and suggests that certain AI tools may benefit from gender-tailored refinement to maximize their impact.

The study concludes that AI-driven social media marketing is a powerful and positively perceived strategy within the food delivery sector. While most AI marketing components are universally effective, personalization-focused AI strategies evoke stronger responses among female consumers. Marketers can leverage these insights to design more targeted and effective AI-based campaigns, ultimately enhancing customer engagement and driving consumer decision-making.

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