

AI-Driven Social Media Marketing and Its Impact on Consumer Behaviour

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Abstract: This study focuses on understanding how AI-driven social media marketing influences consumer behaviour in the current digital environment. With the growing use of artificial intelligence in marketing, tools such as personalized content, chat bots, and automated recommendations are playing a significant role in shaping consumer preferences and purchase decisions. The research examines how these AI-based techniques affect customer engagement, brand awareness, and impulse buying tendencies on social media platforms. It also considers the impact of influencer promotions and targeted advertising on consumer responses. The study is based on primary data collected through a structured questionnaire using stratified sampling. Descriptive statistical methods are applied to analyse the data. The findings highlight how businesses can effectively use AI-enabled strategies to better understand and influence consumer behaviour.

Keywords: AI-Driven Marketing, Social Media Marketing, Consumer Behaviour, Artificial Intelligence, Personalization.

1 INTRODUCTION

Artificial Intelligence (AI)-driven social media marketing has become a critical component of modern digital marketing, transforming how businesses communicate with and influence consumers in online environments. Recent studies highlight that AI techniques, particularly in analyzing narrative strategies and consumer responses, significantly enhance the effectiveness of marketing communication and engagement outcomes [1][2]. Furthermore, the integration of AI in social media analytics enables organizations to extract deeper customer insights, optimize targeting strategies, and improve overall engagement levels, thereby contributing to digital business success [3]. Social media marketing activities, when combined with AI capabilities, have been shown to positively influence consumer satisfaction and purchase intentions by delivering relevant and personalized content experiences [4].

In addition, AI-driven marketing plays a vital role in shaping consumer perceptions and willingness to pay, particularly through its impact on brand image and decision-making processes [5][6]. Social media platforms also facilitate strong relationships between brands and consumers by enhancing relationship quality and encouraging word-of-mouth communication, which further influences buying behaviour [7]. The role of sentiment analysis and real-time data processing has gained importance, as consumer spending patterns are increasingly linked to social media interactions and opinions expressed online [8][9]. Moreover, real-time marketing messages powered by AI significantly improve consumer engagement by delivering timely and context-aware content [10].

Despite these advantages, concerns regarding privacy, trust, and ethical use of consumer data remain prominent. Research indicates that while AI-driven personalization enhances user experience, it also raises issues related to data security and consumer trust [11]. Additionally, influencer-generated content and communication styles on social media platforms have a measurable impact on consumer purchase behaviour, further emphasizing the persuasive power of AI-enhanced marketing strategies [12]. Therefore, AI-driven social media marketing not only streamlines product discovery and purchasing decisions but also necessitates a careful balance between technological advancement and ethical responsibility to sustain long-term consumer trust and engagement in the digital marketplace [13].

2 LITERATURE REVIEW

The literature on AI-driven social media marketing provides extensive evidence on its growing influence in shaping consumer behaviour and enhancing marketing effectiveness. Study by Lyulyov et al. (2025) demonstrate that the use of machine learning and predictive analytics significantly improves campaign performance by enabling precise audience targeting and increasing consumer engagement [1]. Similarly, Ajeel and Maarij (2025) highlight how AI techniques can analyze narrative elements in advertising to optimize communication strategies and influence audience perception [2].

The application of AI in social media analytics has also been emphasized by Ma'rifatullah et al. (2023), who note that AI enables businesses to derive deeper customer insights, improve engagement, and achieve digital business success [3]. Further research by Ngo et al. (2025) shows that social media marketing activities supported by AI positively impact consumer satisfaction and purchase intention, particularly through personalized and interactive content [4]. In another study, Ngo et al. (2025) explain that AI-driven marketing influences consumers' willingness to pay by shaping brand perception and decision-making processes [5]. Supporting this, Cheng et al. (2025) identify that social media marketing activities enhance relationship quality between brands and consumers, leading to increased word-of-mouth intentions and stronger behavioural outcomes [6].

Recent findings by Gao et al. (2026) reveal that social media sentiment significantly affects consumer spending patterns, demonstrating the importance of AI-powered sentiment analysis in understanding market dynamics [7]. Additionally, Chae et al. (2025) highlights that real-time marketing messages powered by AI improve consumer engagement by delivering timely, relevant, and context-aware content [8]. Srivastava and Gurme (2025) further emphasize that AI-driven personalization plays a crucial role in shaping consumer behaviour; however, it also raises concerns related to privacy, trust, and ethical use of data [9]. Yang et al. (2025) focus on influencer-generated content and show that communication styles and certainty in messaging significantly influence consumer purchase behaviour, especially in AI-enhanced social media environments [10].

Finally, Acatrinei et al. (2025) conclude that AI-driven personalization strengthens emotional connections, enhances customer loyalty, and fosters long-term engagement between consumers and brands [12]. Overall, the reviewed studies collectively indicate that AI-driven social media marketing plays a transformative role in influencing consumer awareness, engagement, decision-making, and purchase behaviour. At the same time, they consistently highlight ethical challenges such as data privacy risks, algorithmic bias, and the need for responsible AI implementation to ensure sustainable and trustworthy marketing practices [14].

3 NEED, SCOPE, OBJECTIVES, AND IMPORTANCE OF THE STUDY

The study of AI-driven social media marketing and its impact on consumer behaviour is essential in the contemporary digital landscape, where artificial intelligence is increasingly shaping how consumers interact with brands. AI technologies such as personalized advertising, predictive targeting, and automated engagement significantly influence product discovery, trust formation, and purchase decisions. At the same time, concerns related to data privacy, ethical usage of consumer information, and the spread of misinformation highlight the need for a balanced and responsible approach. Therefore, examining these dynamics provides valuable insights for businesses to develop effective and ethical marketing strategies that enhance competitiveness while maintaining consumer trust.

The scope of this study encompasses a comprehensive analysis of the evolving relationship between AI-enabled social media marketing strategies and consumer behaviour. It focuses on understanding how advanced marketing tools influence consumer perceptions, engagement, and decision-making processes across different platforms. Additionally, the study considers variations in consumer responses based on demographic factors and aims to identify key determinants that contribute to the success of AI-powered marketing campaigns in diverse market environments. In line with this scope, the study is guided by specific objectives: to examine the relationship between AI-driven social media marketing activities and consumer awareness; to assess the influence of AI-powered strategies on consumer preferences and brand perception; to investigate the impact of AI-enhanced marketing on consumer decision-making processes; and to evaluate the effectiveness of different AI-integrated social media platforms in shaping consumer behaviour.

The importance of this study lies in its ability to provide a deeper understanding of modern marketing dynamics and consumer engagement in the era of artificial intelligence. As social media platforms continue to integrate AI technologies, they play a crucial role in influencing daily consumer interactions and purchasing decisions. Insights derived from this study can support businesses, marketers, and policymakers in designing more personalized, efficient, and impactful marketing strategies, while also addressing ethical concerns and ensuring sustainable practices in the digital marketplace.

4 RESEARCH DESIGN, SAMPLING, LIMITATIONS, AND KEY FINDINGS

This study adopts a mixed-methods research design, integrating both quantitative and qualitative approaches to provide a comprehensive understanding of the impact of AI-driven social media marketing on consumer behaviour. The use of this approach enables the collection of structured numerical data alongside interpretative insights, thereby enhancing the depth and reliability of the analysis.

The study is based on responses collected from 181 participants, ensuring adequate representation for meaningful interpretation. A stratified random sampling technique is employed to capture diverse demographic segments within Vijayawada,

with stratification based on variables such as age, gender, income, and education. This method improves the representativeness of the sample and reduces sampling bias. The sample size of 181 is determined using appropriate statistical considerations to ensure the validity and reliability of the findings, taking into account the heterogeneous nature of the population. Table 1 describes the Key Findings / Interpretation.

Despite its strengths, the study has certain limitations. The findings may have limited generalizability due to variations in consumer behaviour and social media usage across regions and industries. Resource and time constraints may have restricted the depth of analysis, while the rapidly evolving nature of AI technologies and social media platforms could make some findings less applicable over time. Additionally, methodological challenges exist in isolating the specific effects of AI-driven strategies from other influencing factors. Ethical and privacy concerns related to data collection may also limit the scope of the research.

Table. 1 Key Findings / Interpretation

Q. No	Question	Key Findings / Interpretation
1	Age distribution	40.9% (21–25 yrs), 34.3% (15–20 yrs), 15.5% (26–30 yrs).
2	Awareness of products/services via social media	43.1% agree it increases awareness.
3	Frequency of seeing brand content	45.6% said “sometimes.”
4	Impact on knowledge of brands	31.9% moderately, 22.1% extremely.
5	Purchase due to social media campaigns	40.9% said “sometimes.”
6	Content engagement & informativeness	34.3% find content highly engaging.
7	Influence on brand preference	33.1% disagree/strongly disagree.
8	Perception of promoted brands	31.5% agree promoted brands seen more positively.
9	Likelihood of trying new products	43.3% somewhat likely, 4.3% very unlikely.
10	Impact on brand quality/credibility perception	39.2% neutral.
11	Emotional connection with brands	27.6% said no influence.
12	Frequency of purchase decisions influenced	32.9% said “sometimes.”
13	Researching products on social media	35.9% + 17.7% said they research before purchase.
14	Trust in influencer/friend recommendations	36.5% somewhat likely, 11.6% very likely.
15	Helpfulness of content for informed decisions	42.0% said moderate information provided.
16	Impulse purchases due to social media	50.8% said no impulse purchase.
17	Most effective platform	Instagram (54.1%).
18	Engagement with brand content	42.0% said “sometimes.”
19	Authenticity/trustworthiness of platform content	44.8% neutral.
20	Platform choice influencing brand preference/purchase	36.5% agree.
21	Likelihood of recommending products to friends/family	37% somewhat likely, 34.8% neutral.

The above table presents the summarized responses and interpretations derived from the survey, highlighting patterns in awareness, engagement, trust, and decision-making behaviour influenced by AI-driven social media marketing.

5 FINDINGS AND SUGGESTIONS

The findings of the study reveal that AI-driven social media marketing plays a significant role in shaping consumer behaviour and enhancing marketing effectiveness. A majority of respondents indicated that AI-powered social media marketing increases awareness of new products and services, highlighting its strong influence in the initial stages of the consumer decision-making process. More than two-thirds of the respondents also perceived that AI-based campaigns substantially improve brand awareness, demonstrating the effectiveness of personalized and targeted marketing strategies.

The study further shows that AI-driven campaigns contribute to driving sales and influencing purchase decisions, as consumers are exposed to relevant and timely content. In terms of engagement, over half of the respondents reported that AI-curated content is engaging, informative, and relevant, indicating the effectiveness of personalization in capturing consumer attention. However, only around two-fifths acknowledged that such marketing strategies influence their brand preferences, suggesting that while AI enhances visibility and engagement, its impact on preference formation may vary among individuals. Additionally, more than sixty percent of respondents perceived brands promoted through AI-driven social media more positively, reinforcing the importance of consistent and strategic digital presence.

The findings also indicate that a majority of consumers are at least somewhat likely to try new products or services promoted through AI-powered campaigns, reflecting the role of AI in encouraging product exploration. Furthermore, AI tools enable brands

to communicate their values, stories, and mission more effectively, thereby fostering stronger consumer connections. Despite this, only about one-third of respondents reported a strengthened emotional connection with brands, suggesting that emotional engagement remains an area for improvement. Among various platforms, Instagram and YouTube emerged as the most effective AI-integrated platforms in influencing consumer purchasing decisions, highlighting the importance of visually driven and interactive content.

Based on these findings, several suggestions are proposed to enhance the effectiveness of AI-driven social media marketing strategies. Businesses should focus on creating AI-powered content that is relevant, valuable, and aligned with consumer interests to improve engagement and satisfaction. It is also important to avoid excessive promotional content by utilizing AI-optimized scheduling techniques that ensure balanced and timely communication. The use of AI tools such as chatbots and recommendation systems can help in building stronger customer relationships through personalized interactions. Additionally, ensuring that content remains authentic while leveraging AI insights is crucial for maintaining consumer trust. Marketers should also utilize AI analytics to target campaigns toward specific demographic segments, thereby improving precision and effectiveness. Finally, offering exclusive deals and discounts based on AI-driven segmentation can further enhance customer engagement and encourage purchase behaviour.

6 CONCLUSION

The study on the impact of AI-driven social media marketing on consumer behavior reveals significant insights into the relationship between advanced marketing activities and consumer perceptions. Firstly, the findings highlight that AI-powered social media marketing plays a pivotal role in enhancing consumer awareness of products and services. Secondly, the research indicates that AI-driven strategies are key drivers in shaping consumer preferences and brand perception. Thirdly, the study provides valuable evidence of how AI-enhanced social media marketing influences consumer decision-making processes. Lastly, the results suggest that AI-integrated campaigns can effectively drive sales and foster stronger consumer engagement. To maximize impact, the study offers practical suggestions for businesses, including creating engaging and informative content, leveraging AI for personalization, collaborating with influencers, and utilizing targeted advertising across social media platforms.

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ETHICS STATEMENT

This study did not involve human or animal subjects and, therefore, did not require ethical approval.

STATEMENT OF CONFLICT OF INTERESTS

The authors declare that they have no conflicts of interest related to this study.

LICENSING

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REFERENCES

- [1] O. Lyulyov, T. Pimonenko, and A. Kwilinski, "Digital inclusion for a sustainable future: Catalysing green economic growth," *Sustainable Futures*, vol. 10, p. 101037, Jul. 2025, doi: 10.1016/j.sftr.2025.101037.
- [2] A. A. Ajeel and M. I. Maarij, "Using AI to Analyse Narrative Techniques in Television Advertising," *2025 IEEE 4th International Conference on Computing and Machine Intelligence (ICMI)*, MI, USA, 2025, pp. 1-5, doi: 10.1109/ICMI65310.2025.11141089.
- [3] D. F. Ma'rifatullah, M. I. Sakaruddin, Reyvaldo and E. Halim, "Unlocking Digital Business Success: Leveraging Artificial Intelligence in Social Media Analytics for Enhanced Customer Insights and Engagement," *2023 IEEE 7th International Conference on Information Technology, Information Systems and Electrical Engineering (ICITISEE)*, Purwokerto, Indonesia, 2023, pp. 70-75, doi: 10.1109/ICITISEE58992.2023.10404408.
- [4] T. T. A. Ngo *et al.*, "Leveraging social media marketing activities (SMMA) to enhance consumer satisfaction and purchase intention for bio-cosmetics," *Acta Psychologica*, vol. 261, p. 105768, Oct. 2025, doi: 10.1016/j.actpsy.2025.105768.
- [5] T. T. A. Ngo, G. K. An, N. Y. Dang, T. T. Doan, and V. M. H. Nguyen, "The psychological impact of social media marketing on consumer willingness to pay for tech gadgets: A study on brand perception and decision-making," *Acta Psychologica*, vol. 262, p. 106130, Dec. 2025, doi: 10.1016/j.actpsy.2025.106130.
- [6] B. Cheng, D. Y. Pyun, and S. Yilmaz, "Associations among the Premier League's social media marketing activities, consumer relationship quality and consumers' word-of-mouth intention in the Chinese market," *International*

- Journal of Sports Marketing and Sponsorship*, vol. 27, no. 1, pp. 28–44, Sep. 2025, doi: 10.1108/ijsms-03-2025-0094.
- [7] M. Gao, S. Xu, and X. Zhang, “Social media sentiment and consumer spending dynamics,” *Finance Research Letters*, vol. 95, p. 109677, Feb. 2026, doi: 10.1016/j.frl.2026.109677.
- [8] M.-J. Chae, O. Rodríguez-Vilá, and S. Bharadwaj, “Real-time marketing messages and consumer engagement in social media,” *Journal of Business Research*, vol. 191, p. 115266, Feb. 2025, doi: 10.1016/j.jbusres.2025.115266.
- [9] R. K. Srivastava and V. Gurme, “Artificial intelligence and consumer behaviour on social media: A study of personalization, trust, and privacy,” *Measurement Digitalization*, vol. 5, p. 100021, Dec. 2025, doi: 10.1016/j.meadig.2025.100021.
- [10] Q. Yang, Q. Han, J. Li, J. Zhu, and Y. Jiang, “Exploring the impact of certainty language style in social media influencers-generated content on consumers’ purchase behavior,” *Journal of Research in Interactive Marketing*, vol. 20, no. 2, pp. 215–231, May 2025, doi: 10.1108/jrim-09-2023-0314.
- [11] Vallepu Ganesh Babu, Kanapala Priyanka and Vallem Gopichand, “Artificial Intelligence Driven Commerce: Redefining Business Strategy, Consumer Experience, and Global Market Dynamics in the Digital Era,” *International Journal of Emerging Research in Science Engineering and Management*, vol. 2, no. si1, pp. 74–82, May. 2026, doi: 10.66710/ijersem.v2si1.9.
- [12] C. Acatrinei, I. G. Apostol, L. N. Barbu, R.-G. Chivu, and M.-C. Orzan, “Artificial intelligence in digital Marketing: Enhancing consumer engagement and supporting sustainable behavior through social and mobile networks,” *Sustainability*, vol. 17, no. 14, p. 6638, Jul. 2025, doi: 10.3390/su17146638.
- [13] S. Chandra, S. Muniraj, S. Y. Reddy, V. Raju, B. R. Kumar and S. k. Katta, "Blockchain and AI Integration in Fintech: Securing Financial Transactions and Ensuring Transparency," *2025 IEEE 4th World Conference on Applied Intelligence and Computing (AIC)*, GB Nagar, Gwalior, India, 2025, pp. 257-261, doi: 10.1109/AIC66080.2025.11212004.
- [14] B. R. Kumar et al. “An Exploratory Study on AI-Powered Client Relationship Administration: An In-Depth Survey and Roadmap for Future Investigations,” *Asian and Pacific Economic Review*, 2023.