A Study on Impact of AI on Social Media and Digital Marketing

OPEN ACCESS

Volume: 13

Special Issue: 3

Month: August

Year: 2025

P-ISSN: 2321-788X

E-ISSN: 2582-0397

Citation:
Sudha, J. Jay, and S. Saravana. "A Study on Impact of AI on Social Media and Digital Marketing." *Shanlax International Journal of Arts, Science and Humanities*, vol. 13, no. S3, 2026, pp. 73–81.

DOI:
https://doi.org/10.34293/sijash.v13iS2-Aug.10436

J. Jay Sudha
Ph.D (F.T) Research Scholar
Dr. Ambedkar Government Arts College, Chennai, Tamil Nadu

Dr. S. Saravana
Associate Professor
Dr. Ambedkar Government Arts College, Chennai, Tamil Nadu

Abstract

The integration of Artificial Intelligence (AI) into digital marketing and social media management is changing how brands interact with consumers, improve content strategies, and make decisions based on data. AI tools have become essential parts of our daily lives and are closely connected to our activities. The author examines how Artificial Intelligence impacts digital marketing performance. Based on the Technology Acceptance Model (TAM) and Diffusion of Innovation (DOI) Theory, the research examines how perceived usefulness, ease of use, innovation adoption, and user attitude affect the performance of AI tools in campaigns. The current study uses descriptive analysis to show how respondents felt about the variables and indicators related to their relationship with these tools. The researcher used a convenience sampling method to select a sample size of 200 respondents. This review aims to provide an overview of the complex relationship between humans and technology. It highlights the need for more research in this rapidly changing field and the importance of informed decision-making about our digital engagement. This will help support optimal thinking and well-being in the digital age.

Keywords: Artificial Intelligence, Digital marketing, Technology acceptance model, Diffusion of innovation adoption, Perceived usefulness, User attitude.

Introduction

In today's fast-changing digital world, Artificial Intelligence (AI) has become a powerful force in transforming how businesses approach marketing. One of its most impactful uses is in digital marketing and social media management, where it changes strategies, consumer interactions, and decision-making processes. As organizations aim to deliver more personalized, efficient, and data-driven campaigns. From automating content creation to using predictive analytics and intelligent customer engagement, AI is improving marketing performance across various industries.

The global digital marketing landscape is experiencing significant changes. Traditional marketing methods are quickly being supplemented or even replaced by AI-driven tools that allow for real-time analytics, hyper-personalization, predictive modeling, and automated content generation. In a time when data-driven decision-making and customer-focused strategies are essential, AI has become

a key driver of marketing innovation and efficiency. From automating content and segmenting customers to using predictive analytics and engaging with audiences in real time, AI is changing how brands connect with their customers and assess campaign success.

At the same time, social media management has undergone a major shift with the introduction of AI. Platforms like Facebook, Instagram, X (formerly Twitter), LinkedIn, and TikTok now utilize smart algorithms to curate content, moderate communities, detect fake news, and even respond to customer inquiries using AI-powered chatbots. Influencer marketing, brand monitoring, and social listening have also improved through natural language processing (NLP), image recognition, and sentiment analysis. The ability to predict user preferences and behaviors has turned social media into more than just a communication tool; it is now a strategic driver of brand loyalty and consumer trust.

The intersection of AI and marketing also raises new ethical and operational challenges. Issues of data privacy, algorithm transparency, bias, and digital inclusion are becoming more important. As businesses and marketers implement AI solutions, they must balance innovation with responsibility, ensuring that technology meets both commercial goals and societal values. Additionally, adopting innovations is crucial for closing the gap between potential and real-world practice. While early adopters may see AI as a competitive edge, others may hesitate due to concerns about complexity, costs, or disruptions to current workflows. Understanding these views is vital for organizations that want to build a culture of innovation and digital maturity.

Perceived usefulness shows how much marketers believe that AI tools can improve their campaigns' effectiveness and efficiency, whether by optimizing targeting, enhancing personalization, or boosting return on investment. Perceived ease of use refers to how intuitive and accessible these tools are, especially for non-technical professionals in marketing. Adopting AI is not just a tech change; it also involves a mental and organizational shift that requires confidence, clarity, and careful planning.

Despite the increasing availability and sophistication of AI marketing tools, their successful use depends on several psychological and technological factors. Based on frameworks like the Technology Acceptance Model (TAM) and Diffusion of Innovation Theory, the adoption of AI tools is influenced by factors such as perceived usefulness, ease of use, readiness for innovation, and ethical concerns. Marketers often struggle with selecting suitable AI technologies, understanding AI-generated data, and keeping a personal touch in customer communications. While AI offers chances for automation, personalization, predictive analytics, and better customer engagement, there is still a gap in assessing how effectively these tools impact marketing performance and user interaction.

Objectives of the Study

- This research focuses on examining the impact of AI on digital marketing performance.
- To investigate the relationship between perceived usefulness, ease of use, innovation adoption and user attitude in determining AI acceptance in digital marketing.

Limitations of the Study

This study several limitations. The quick changes in AI technology may affect how relevant the findings are in the long run. The research depends on what respondents know and how they perceive things, which could lead to some bias or inaccuracies. The study is limited by geographical area, sample size, and chosen industries, which reduces how widely the results can be applied. Limited access to proprietary AI tools and platform data restricts a deeper technical analysis. Time constraints prevent a thorough evaluation of how AI performs over the long term. Also, only

select AI tools and applications are included, while broader issues related to ethics, privacy, and measurement are not examined in detail. These factors should be kept in mind when interpreting the results and using them in larger contexts.

Significance of the Study

The integration of Artificial Intelligence (AI) into digital marketing and social media management has changed how businesses interact with customers, analyze market trends, and personalize content. This study is important because it examines how AI technologies, such as machine learning, natural language processing, predictive analytics, and chatbots, improve marketing performance and operational efficiency.

In today's competitive digital world, understanding the impact of AI helps marketers and organizations make decisions based on data, automate routine tasks, improve targeting accuracy, and enhance customer experience across platforms. The research offers valuable insights into how AI tools influence user engagement, brand perception, and return on investment (ROI) in digital marketing campaigns and social media strategies.

Additionally, this study is useful for academic researchers, digital strategists, and business professionals. It illustrates how perceived usefulness, ease of use, and the adoption of innovation, based on models like TAM and Diffusion of Innovation Theory, affect the willingness to adopt AI. This research connects theoretical knowledge with practical application and provides guidelines for effectively using AI in marketing systems.

Perceived Usefulness

Perceived usefulness is important in deciding how marketing professionals and businesses adopt AI tools as an independent variable. If marketers see AI as useful for increasing campaign efficiency, improving audience targeting, personalizing content, or generating valuable insights from data, they are more likely to use these tools in their strategies. AI applications like automated content generation, predictive customer behavior analysis, chatbots, and sentiment analysis are often viewed as helpful because they save time, lessen human error, and boost consumer engagement. Therefore, understanding perceived usefulness aids in assessing user acceptance of AI in marketing platforms.

Ease of Use

The degree to which an individual believes that using a particular technology will be free of effort. This concept is a key component of the Technology Acceptance Model (TAM). This is independent variable and is considered a major factor influencing the adoption of new technologies.

In the context of AI in digital marketing and social media management, perceived ease of use determines how comfortably marketing professionals and social media managers can implement and operate AI tools. If AI systems are intuitive, user-friendly, and require minimal technical expertise, users are more likely to adopt them in their workflows.

AI-powered platforms that offer easy integration, visual dashboards, automated scheduling, or drag-and-drop features are seen as more approachable. When marketers find AI tools easy to use, they are more confident in leveraging them to enhance content creation, audience engagement, and campaign performance thereby increasing AI adoption in the marketing domain.

Innovation Adoption

The integration of new technologies or ideas of AI in digital marketing and social media management, innovation adoption reflects how readily marketing professionals are willing

to embrace AI-driven tools and systems. Guided by Rogers' Diffusion of Innovation Theory, adoption depends on factors such as the perceived advantage of AI, compatibility with existing tools, complexity, trialability, and observability of results. Marketers who view AI as a valuable and compatible innovation offering clear benefits like automation, personalization, and advanced analytics are more likely to adopt it.

Understanding innovation adoption is crucial for determining as independent variable. AI acceptance, as it highlights the behavioral and organizational readiness to shift from traditional methods to AI-enabled solutions. It also explains how early adopters influence broader usage, shaping how AI transforms marketing strategies and social media engagement.

User Attitude toward AI

The overall positive or negative evaluation that marketing professionals and social media managers hold regarding the use of AI tools in their work. It reflects their personal feelings, beliefs, and readiness to accept AI as a helpful part of their professional activities.

Grounded in the Technology Acceptance Model (TAM), user attitude acts as a mediator between factors such as perceived usefulness and ease of use, and innovation adoption AI. If users believe that AI tools are beneficial (e.g., improving targeting, automating repetitive tasks, increasing ROI) and easy to use, they are more likely to develop a positive attitude toward integrating them into marketing strategies.

Review of Literature

The integration of Artificial Intelligence (AI) in digital marketing and social media management has garnered increasing attention in recent years. Researchers and practitioners alike recognize AI as a powerful tool that enhances marketing performance through automation, personalization, and data-driven decision-making. The following literature reviews key studies that investigate the impact of AI on marketing performance, with a focus on objectives, methodologies, and findings.

Shata & Hartley (2025), the authors highlighted that social reinforcement and trust significantly affected attitudes and usage of AI technologies, suggesting that social influence and credibility are critical enablers of AI integration in professional environments. This study adopts a quantitative research design using a survey-based approach to explore the factors influencing the acceptance and adoption of Artificial Intelligence (AI) tools in digital marketing and social media management. The study used descriptive statistics and Multiple Regression and structural equation modeling (SEM).

Li and Zheng (2024), the study examines how social media usage shapes public attitudes toward AI technologies, such as algorithms, facial recognition, and driverless vehicles. Grounded in the Heuristic-Systematic Model (HSM) and media effects theory, their research identified perceived AI fairness and AI threat as key mediating variables. Their findings revealed that greater social media use is associated with higher perceived fairness and lower perceived threat, which in turn lead to more positive attitudes toward AI technologies.

Dwivedi et al. (2023), the study examine how perceived usefulness, ease of use, and innovation characteristics affect AI adoption among marketing professionals. The study adopted Quantitative research using a survey-based design; data collected from 250 marketing professionals and analyzed using Structural Equation Modeling (SEM).

Grover et al. (2022), the study emphasize that successful AI implementation depends not only on technological infrastructure but also on behavioral, organizational, and contextual factors. The adoption of Artificial Intelligence (AI) in business functions including marketing, operations, and customer service—has accelerated due to its transformative capabilities in automation,

personalization, and decision support. This study employed a dual-source data collection strategy integrating both academic and social media data.

Chatterjee, Rana, & Dwivedi (2021), the study aims to assess how AI technologies are transforming marketing strategies and operations. A study used systematic literature review of 146 peer-reviewed journal articles published between 2010 and 2020.

Zhang & Kim (2020), the study aims to assess how AI influences consumer behavior and brand engagement on social media platforms. The study used Mixed-method study, combining social media content analysis and a survey of 300 users.

Research Gap

The reviewed literature consistently shows that AI positively affects digital marketing and social media performance, particularly in areas like personalization, automation, targeting, and engagement. However, how marketers adopt and use AI depends on their views of its usefulness, ease of use, and willingness to innovate. While several studies examine the technological and consumer viewpoints, there is limited research that focuses on marketers' intentions using combined theories like TAM and DOI.

Methodology

This study adopts a quantitative research design to examine the impact of Artificial Intelligence (AI) on digital marketing and social media management. The research is grounded in the Technology Acceptance Model (TAM) and Diffusion of Innovation (DOI) Theory, which help assess the influence of factors such as perceived usefulness, ease of use, user attitudes and innovation adoption on AI acceptance in marketing practices. Primary data were collected through a structured online questionnaire, distributed via professional networks such as LinkedIn, email, and marketing forums. The questionnaire was designed using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), and contained independent, mediator and Depend variable. Perceived usefulness, ease of use and innovation adoption is independent. A quantitative research approach is employed to collect measurable data using a structured questionnaire. The findings will help explain how these factors collectively influence the adoption and effectiveness of AI in digital marketing and social media campaigns. This study utilizes a convenience sampling method, a non-probability sampling technique where participants are selected based on their accessibility, availability, and willingness to participate in the research. This approach is suitable for exploratory research and is commonly used when the research population is dispersed or difficult to access through random sampling methods. The target respondents include Digital marketers, Social media managers, Content creators and Marketing students and professionals. The sample size is 200 participants, depending on response rates. While convenience sampling may limit the generalize ability of the findings, it provides a practical and cost-effective method for collecting initial insights, especially in areas where participants have varying degrees of exposure to AI in digital marketing and social media.

Results and Discussion

Table 1 shows that most respondents fall in the age group of 18 to 24, making up 61.6% of the total. Additionally, 63.5% hold a degree as their highest educational qualification, and 68.8% are students. Finally, regarding monthly income, 35.4% earn between Rs. 25,000 and 35,000.

Table 1: Demographic Characteristics of Respondents

S.no.	Demographic Factors	Labels	n=200	%
1	Age	Under 18	19	9.7
		18–24	123	61.6
		25–34	34	17
		above 35	24	11.7
2	Educational qualification	Schooling	8	4.4
		Bachelor's degree	128	63.5
		Master's degree	46	23.1
		Doctorate or higher	18	9
3	Employment status	Students	138	68.8
		Home maker	12	6.3
		Employee	50	24.9
4	Monthly family income	Less than 10,000	52	25.8
		10,000–25,000	32	15.5
		25,000–35000	70	35.4
		35,000–45,000	14	7.2
		Above 45,000	32	16.1

The Table 2 shows, Findings of the scales' reliability for this study. The consistency and stability of the measuring device are referred to as reliability. Cronbach's alpha coefficient, which has a scale from 0 to 1, is the most used dependability indicator (Bougie & Sekaran, 2019). The Cronbach's alpha values and the total number of items for each scale are shown in the table. The findings show that Cronbach's alpha values for Perceived Usefulness scales of 0.87, Perceived Ease of Use scales of 0.85, Innovation Adoption scales of 0.82, User Attitude 0.88 and AI Impact on Performance scales of 0.90. These values are all above the commonly accepted minimum threshold of 0.70 for Cronbach's alpha, indicating that the scales used in the study are reliable measures of their respective constructs (Bougie & Sekaran, 2019).

Table 2: Reliability Analysis

S.no.	Variables	Cronbach's Alpha	No. of Items
1	Perceived Usefulness	0.87	3
2	Ease of Use	0.85	3
3	Innovation Adoption	0.82	3
4	User Attitude	0.88	4
5	AI Impact on Performance	0.90	5

Regression Analysis

Table 3 shows the results of the regression analysis on AI's impact on performance, which is the dependent variable. User Attitude serves as the mediator. Perceived Usefulness, Ease of Use, and Innovation Adoption are the independent variables. The correlation coefficient (R) measures

how strong and in what direction the linear relationship exists between User Attitude, Perceived Usefulness, Ease of Use, Innovation Adoption, and AI's impact on performance. The correlation coefficient is 0.778, indicating a moderately strong positive relationship. The R Square value for this model is 0.621. This means that User Attitude, Perceived Usefulness, Ease of Use, and Innovation Adoption explain 62.1% of the variation in AI's impact on performance. The model summary table offers useful data to understand the strength and direction of the relationship among these factors and the percentage of variation in AI's impact on performance they can explain.

Table 3: Model summary

Model	R	R Square	Adjusted R square	Std. Error of the Estimate
1	.788	.621	.610	.512

Table 4 shows the ANOVA results for the regression analysis of AI Impact on Performance. The analysis includes the mediator and independent variables: User Attitude, Perceived Usefulness, Ease of Use, and Innovation Adoption. The F-value is 71.40, which is significant at the p<.000 level. This indicates that the regression model fits the data well. It also suggests that the independent variables significantly affect AI Impact on Performance. Overall, the ANOVA table helps assess how well the regression model fits and highlights the significance of the independent variables in explaining variations in AI Impact on Performance. In this analysis, the results show that User Attitude, Perceived Usefulness, Ease of Use, and Innovation Adoption are significant predictors of AI Impact on Performance.

Table 4: ANOVA a

S.no	Model	Sum of Squares	Df	Mean square	F	Sig.
1	Regression	74.632	4	18.658	71.40	.0000**
	Residual	114.248	195	0.586		
	Total	188.880	199			

Conclusion

This study examined the influence of Artificial Intelligence (AI) on digital marketing and social media management, It focused on key factors like perceived usefulness, ease of use, innovation adoption, and user attitude. The findings show that AI has a significant and positive impact on marketing performance. It improves personalization, increases efficiency, and optimizes customer engagement. Among the predictors, perceived usefulness was the most powerful influence on marketers' willingness to adopt AI tools. When professionals see AI as helpful for their performance, they are more likely to include it in their strategies. Perceived ease of use and readiness for innovation also greatly influenced adoption. This shows the importance of user-friendly design and openness to new technologies. Additionally, user attitude was found to mediate the connection between these factors and the overall success of AI implementation.

Organizations and marketing agencies should offer regular training programs and workshops to help marketers understand AI tools better. Building confidence and technical skills will improve perceived ease of use and encourage the adoption of innovations. Tech developers and marketing platform providers need to create AI tools with easy-to-use interfaces and short learning curves. Simplified dashboards, guided analytics, and drag-and-drop features can enhance user experience

and increase usage. Future research could use a longitudinal design to follow changes in user attitudes and AI effectiveness over time, especially as AI technologies evolve and become more integrated into marketing systems. Although this study used a quantitative approach, future studies could include detailed interviews or focus groups to explore the emotional, ethical, and psychological aspects of AI adoption in marketing. Most studies, including this one, focus on marketers and professionals. Future research can look at the consumer perspective, specifically how customers view AI-generated content, personalization, and automation in marketing. As AI continues to grow, future studies might investigate the effects of new AI tools like generative AI (for example, ChatGPT), voice assistants, and augmented reality on marketing engagement and content strategies

References

1. Chatterjee, S., Rana, N. P., & Dwivedi, Y. K. (2021). Artificial intelligence in marketing: A systematic literature review. Journal of Business Research, 124, 26–43. https://doi.org/10.1016/j.jbusres.2020.11.041
2. Chatterjee, S., Rana, N. P., Tamilmani, K., & Dwivedi, Y. K. (2021). The impact of AI on customer engagement in digital marketing. *Journal of Business Research*, 124, 316–329.
3. Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review*, 96(1), 108–116.
4. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
5. Dwivedi, Y. K., Hughes, D. L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., ... & Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 101994.
6. Dwivedi, Y. K., Hughes, D. L., Kar, A. K., Baabdullah, A. M., & Akter, S. (2023). Examining the role of AI in digital marketing using an integrated TAM and DOI perspective. Journal of Business Research, 161, 113774. https://doi.org/10.1016/j.jbusres.2023.113774
7. Grover, P., Kar, A. K., & Dwivedi, Y. K. (2022). Understanding Artificial Intelligence Adoption in Operations Management – Insights from the review of academic literature and social media discussions. [Manuscript]. Indian Institute of Management Amritsar; Indian Institute of Technology Delhi; Swansea University.
8. Huang, M. H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science*, 49, 30–50.
9. Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, 1(9), 389–399.
10. Kaplan, A., & Haenlein, M. (2019). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons*, 62(1), 15–25.
11. Li, W., & Zheng, X. (2024). Social media use and attitudes toward AI: The mediating roles of perceived AI fairness and threat. Human Behavior and Emerging Technologies, Article ID 3448083. https://doi.org/10.1155/2024/3448083
12. Paschen, J., Kietzmann, J., & Kietzmann, T. C. (2019). Artificial intelligence (AI) and its implications for marketing. Journal of Marketing Management, 35(7–8), 574–578. https://doi.org/10.1080/0267257X.2019.1641975
13. Rogers, E. M. (2003). Diffusion of innovations (5th ed.). Free Press.

14. Shata, A., & Hartley, K. (2025). Artificial intelligence and communication technologies in academia: Faculty perceptions and the adoption of generative AI. International Journal of Educational Technology in Higher Education, 22(14). https://doi.org/10.1186/s41239-025-00511-7
15. Syam, N., & Sharma, A. (2018). Waiting for a sales renaissance in the Fourth Industrial Revolution: Machine learning and artificial intelligence in sales research and practice. Industrial Marketing Management, 69, 135–146. https://doi.org/10.1016/j.indmarman.2017.12.019
16. Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186–204.
17. Zhang, B., & Kim, H. J. (2020). Customer engagement in AI-powered social media marketing. Journal of Business Research, 116, 316–330. https://doi.org/10.1016/j.jbusres.2020.05.016