

# Artificial Intelligence in Social Media Marketing and Customer Engagement

**K Sree Devi**

Ph.D Research Scholar,  
Department of Commerce  
Vistas, Pallavaram  
Chennai

Corresponding Author

**Dr. M. Kavitha**

Professor & Research Supervisor  
Department of Commerce  
Vistas, Pallavaram  
Chennai.

**Dr. T. Edwin Premkumar**

Professor  
Business studies Department  
Nizwa College of technology, Post Box 477  
Nizwa, Sultanate of Oman

## ABSTRACT

AI applied in marketing helps to increase revenues while reducing operating costs. "Social media marketing is one of the main areas where marketers can both skyrocket performance and efficiencies by using artificial intelligence, getting more value and engagement out of every online conversation that happen on social media channels. AI can also analyze customer feedback, sentiment, and satisfaction, and provide insights and recommendations to improve service quality and recovery. Artificial intelligence leads to customer purchase and engagement in social media marketing. This indicates that the AI analyzing real time demands and customer preferences leads to customer engagement in social media marketing.

**Keywords:** Artificial Intelligence, Social media marketing, customer engagement

## INTRODUCTION

Artificial Intelligence, commonly referred to as AI, is an area of computer science that emphasizes the creation of intelligent machines that work and react like humans. Some of the activities computers with AI are designed for include: Speech recognition, Learning, Planning, Problem solving, and more importantly for digital marketing, Data Analysis.

Technological advancements improve the knowledge potential of business and help in

building interactions with the customers. One of the most significant ways AI is impacting digital marketing is through customer engagement. AI technologies, such as chatbots and virtual assistants, are revolutionizing the way businesses interact with their customers.

Every company desires to develop customer engagement through its marketing efforts as it leads to various favorable outcomes for its business. Data gathered from interaction with customers act as customer's voice. Earlier, it was difficult to collect and aggregate such data but

with the introduction of Artificial intelligence it is easier for businesses to analyze customer related data. AI is changing the way brands and users interact with one another. The application of this technology is highly dependent on the nature of the website and the type of business. Marketers can now focus more on the customer and meet their needs in real time. By using AI, they can quickly determine what content to target customers and which channel to employ at what moment, thanks to the data collected and generated by its algorithms. Users feel at ease and are more inclined to buy what is offered when AI is used to personalise their experiences. AI tools can also be used to analyse the performance of a competitor's campaigns and reveal their customers' expectations. Machine Learning is a subset of AI that allows computers to analyse and interpret data without being explicitly programmed. Furthermore, ML assists humans in solving problems efficiently.

The importance of AI in marketing is confirmed by the estimate that "by 2023, 30% of customer service organizations will deliver proactive customer services by using AI-enabled process orchestration and continuous intelligence". The role of artificial intelligence in marketing cannot be overestimated. AI applied in marketing helps to increase revenues while reducing operating costs. "Social media marketing is one of the main areas where marketers can both skyrocket performance and efficiencies by using artificial intelligence, getting more value and engagement out of every online conversation that happens on social media channels".

## **REVIEW OF LITERATURE**

MekhailMustak (2020) Artificial intelligence in marketing: Topic modeling, scientometric analysis, and research agenda. *Journal of Business Research*. The rapid advancement of artificial intelligence (AI) offers exciting opportunities for marketing practice and academic research. In this study, through the application of natural language processing, machine learning, and statistical

algorithms, we examine extant literature in terms of its dominant topics, diversity, evolution over time, and dynamics to map the existing knowledge base. The scientometric analyses reveal key concepts, keyword cooccurrences, authorship networks, top research themes, landmark publications, and the evolution of the research field over time. With the insights as a foundation, this article closes with a proposed agenda for further research.

RohitBansal (2022) Developing Customer Engagement Through Artificial Intelligence Tools: Roles and Challenges. <https://orcid.org/0000-0002-6565-3091>. Artificial intelligence is drastically changing the way businesses used to engage with the customers by extracting and analyzing tremendous data generated through customer interaction. This study aims at understanding the role of artificial intelligence in enhancing customer engagement. It also deals with artificial intelligence tools used for engaging customers, challenges in using artificial intelligence for customer engagement, and the future of artificial intelligence in customer engagement. This study depends on secondary data that have been gathered from various sites, journals, books, and other available e-content. This study has implications for marketers in enhancing customer engagement and for academicians as it contributes to the literature on the role of artificial intelligence in developing customer engagement

Abid Haleem (2022) Artificial intelligence (AI) applications for marketing: A literature-based study. *International Journal of Intelligent networks*. The algorithm learns and improves performance and accuracy as more data is fed into the algorithm. For this research, relevant articles on AI in marketing are identified from Scopus, Google scholar, researchGate and other platforms. Then these articles were read, and the theme of the paper was developed. This paper attempts to review the role of AI in marketing. The specific applications of AI in various marketing segments and their transformations for marketing sectors

are examined. Finally, critical applications of AI for marketing are recognised and analysed.

EdytaGofab-Andrzejak (2022)Enhancing Customer Engagement in Social Media with AI – a Higher Education case study. EdytaGołab-Andrzejak et al. / Procedia Computer Science 207 (2022) 3022–3031 The study aims to demonstrate the importance of artificial intelligence (AI) and examples of tools based on it in the process of enhancing (building, measuring, and managing) customer engagement (CE) in social media in the higher education industry. CE is one of the current essential non-financial indicators of company performance in Digital Marketing strategy.

Ying chen (2022)The influence of customer trust and artificial intelligence on customer engagement and loyalty – The case of the home-sharing industry. Trust is an essential factor in online and offline transactions. This paper examines how customer trust in home-sharing hosts and platforms affects customer relationships, manifested in customer engagement and loyalty. As artificial intelligence (AI) is extensively utilized within home-sharing platforms to facilitate business operations and enhance the customer experience, this study also examines the influence of AI on customer trust and other related outcomes. Customer engagement mediates the relationship between trust and loyalty, while AI may have a negative moderating effect between host trust and customer engagement and customer engagement and loyalty.

Pratiksha, Kavitha (2023)Effectiveness Of Cloud Technologies In Digital Marketing International journal of economic perspectives. 17(2). Cloud technology is a vital part in the modern marketing mix, it is unavoidable when compared to other modern marketing tools, because everything became online, so the need for the acquirement of new technology is needed, in digital marketing the use of cloud technology is varied from the use of other sectors, because marketing is connected

with every online presence of consumer. This paper studies about how the cloud technologies impacted the trend of digital marketing, researcher used secondary data collected from previously published journal, theses, websites, blogs etc., author conclude that digital marketing been effectively used and the level of customer satisfaction is high

### **OBJECTIVES OF THE STUDY**

1. To find the variables analyzing Artificial Intelligence in social media marketing
2. To find the influence of Artificial Intelligence on customer engagement

### **HYPOTHESES OF THE STUDY**

1. There is no significant difference among the variables analyzing Artificial Intelligence in social media marketing
2. There is no significant influence of Artificial Intelligence on customer engagement

### **ANALYSIS AND DISCUSSION**

With Artificial Intelligence for e-commerce, gather, use the data regarding who likes what, not just in products but in channels too. Then the concern company can automate to reach out to each consumer based on the channels based on their preferences. AI can also analyze customer feedback, sentiment, and satisfaction, and provide insights and recommendations to improve service quality and recovery. The following table shows that the variables analyzing Artificial Intelligence in social media marketing.

#### **Hypothesis Testing 1**

There is no significant difference among the variables analyzing Artificial Intelligence in social media marketing

	N	Mean	Std. Deviation	Std. Error Mean	T value	Sig.
Real time demand	513	2.90	1.173	.052	56.089	.000
Customers behaviour	513	3.15	1.171	.052	60.856	.000
Preferences	513	3.24	1.063	.047	69.113	.000
Purchase history	513	3.28	1.155	.051	64.291	.000
Tailored delivery	513	3.27	1.237	.055	59.765	.000
Analyzing Feed back	513	3.15	1.167	.052	61.124	.000

Source –Computed data

From the above table it can be found that the mean values range from 2.90 to 3.27 with the respective standard deviation and standard error. The t values 56.089, 60.856, 69.113, 64.291, 59.765 and 61.124 are statistically significant at the 5 % level. Therefore, it can be concluded, among the six factors analyzing customer preferences through Artificial intelligence leads to customer purchase and engagement in social media marketing. The above hypothesis is

rejected, since the significant difference among the variables.

### Hypothesis Testing 2

#### INFLUENCE OF AI ON CUSTOMER ENGAGEMENT

The AI consist of six variables and it subsequent influence over customer engagement is measured through linear multiple regression analysis. The results are presented below

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.955 <sup>a</sup>	.912	.911	1.74729

a. Predictors: (Constant), V2,V4, V5, V1,V6, V3

Source –Computed data

From the above table it is found that R=.955 R square = .912 and adjusted R square .911. This implies the AI variable create 91% variance over

the customer engagement. The cumulative influence of six variables of AI over customer engagement is ascertained through the following one way analysis of variance.

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	15931.240	6	2655.207	869.703	.000 <sup>b</sup>
	Residual	1544.821	506	3.053		
	Total	17476.060	512			

a. Dependent Variable: customer engagement  
b. Predictors: (Constant), V2,V4, V5, V1,V6, V3

Source –Computed data

Table 3 presents that f=869.703 p=.000 are statistically significant at 5% level. This indicates all the six variables cumulatively responsible for

customer engagement. The individual influence of all this six variables is clearly presented in the following co-efficient table.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.380	.285		1.333	.183
	Real time demand	1.926	.096	.387	19.989	.000
	Customers behaviour	1.168	.112	.234	10.466	.000
	Preferences	1.545	.137	.281	11.253	.000
	Purchase history	.284	.131	.056	2.166	.031
	Tailored delivery	.425	.102	.090	4.165	.000
	Analyzing Feed back	.474	.075	.095	6.335	.000

a. Dependent Variable: customer engagement

Source –Computed data

From the above table it shows that Real time demand (Beta=.387, t=19.989, p=.000), Customers behaviour (Beta=.234, t=10.466, p=.000), Preferences (Beta=.281, t=11.253, p=.000), Purchase history (Beta=.056, t=2.166, p=.031), Tailored delivery (Beta=.090, t=4.165, p=.000) and Analyzing Feedback (Beta=.095, t=6.335, p=.000) are statistically significant at 5% level. This indicates that the AI analyzing real time demands and customer preferences leads to customer engagement in social media marketing.

### FINDINGS AND CONCLUSIONS

There are six factors analyzing customer preferences such as real time demand, customer behavior, customer preferences, purchase history, tailored delivery and analyzing feedback. AI can also analyze customer feedback, sentiment, and satisfaction, and provide insights and recommendations to improve service quality and recovery. Artificial intelligence leads to customer purchase and engagement in social media marketing. This indicates that the AI analyzing real time demands and customer preferences

leads to customer engagement in social media marketing.

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