

Role of Artificial Intelligence in Enhancing Customer Engagement in Digital Marketing.

Abstract

In the present era, Artificial Intelligence has emerged as a new technology in digital marketing by improving customer engagement and personalized interactions. Tools like chatbots help businesses understand consumer behavior and deliver them with customized contents. This study examines the role of Artificial Intelligence in improving customer engagement in digital marketing using secondary data sources available online. Quantitative techniques such as correlation, regression, and chi-square are used for analysis. The study highlights how AI helps businesses predict customer preferences and design targeted marketing strategies.

Keywords: Artificial Intelligence, Digital Marketing, Customer Engagement, Chatbots, Predictive Analytics.

Introduction

Digital marketing has evolved from old campaigns to the latest AI-driven strategies. Companies now use these strategies to anticipate customer needs, respond quickly, and provide customizations. This technique makes it possible to build more meaningful interactions, improve customer satisfaction, and increase loyalty.

Some key AI applications used nowadays include:

- **Chatbots:** Provide instant support with 24/7 service, and improving customer convenience.
- **Predictive Analytics:** Monitors consumer behavior to forecast preferences and trends in the market.
- **Automated Content Creation:** Create personalized content for emails, social media, and the likewise.

- **Recommendation Engines:** Recommends products or services that can satisfy individual customer needs.

The adoption of AI in digital marketing is growing rapidly, as companies realize its potential to increase engagement, retention, and sales. This study focuses on how AI enhances customer engagement through content personalization, chatbots, and predictive strategies, and evaluates the relationships using statistical methods.

Importance of the study

In today's fast-changing digital world, studying how Artificial Intelligence improves customer engagement has become very important. As more businesses move online, they are using AI to better understand and connect with their customers. This paper helps researchers look into how tools like chatbots and personalized recommendations make interactions smoother and more meaningful. It also helps in understanding new trends such as predictive analytics and automated marketing. This study is useful for businesses to adjust changing customer needs and stay competitive. Overall, it adds value to both academic research and real-world marketing practices.

Statement of the Problem

Today, businesses are connecting with customers more than ever through digital platforms, but keeping people truly engaged is still a challenge. Many companies find it difficult to understand what customers really want and to provide experiences that feel personal and meaningful. Artificial intelligence offers new ways to study customer behavior and interact with them in smarter, faster, and more customized ways. Even so, not all businesses know how to use AI effectively in their marketing strategies. So, this study focuses on understanding how artificial intelligence can help improve customer engagement in digital marketing in a more practical and relatable way.

Objectives of the Study

1. To study the use of Artificial Intelligence in digital marketing.
2. To examine how chatbots help deliver personalized customer interactions.

3. To study the relationship between AI adoption and customer engagement in digital marketing.

Literature Review

- According to Epsilon (2024), consumers observe that AI-driven campaigns work but still seek the human touch.
- WiFi Talents (2024) says that that 67% of consumers opt for chatbots, and 50% prefer 24/7 availability.
- AI personalization can be directly related to increased purchase likelihood, spending, and retention (Twilio Report, 2024).

Methodology

The study uses a quantitative approach with secondary data. Sources include industry reports, surveys, and analytics websites. Analysis methods include: Descriptive statistics , Chi-square test and Pearson’s Correlation Coefficient) .

The sampling chosen for the study is simple random sampling.

Data Analysis and Results

Table 5.1 Use of AI in Digital Marketing

Objective	Indicator	Percentage (%)
Study the use of AI	AI adoption by marketers	94
Understand AI tools	AI for content creation	83
Examine AI in advertising	AI for ad generation	76
Study future impact of AI	Automated content trend	57

(Source:Secondary Data)

70

Table 5.2 Descriptive Statistics

Statistic	Value (%)
Mean	77.5
Median	79.5
Mode	None
Range	37
Variance	181.24
Standard Deviation	13.46

71 (Source:Table 5.1)

72 Interpretation:

73 The analysis shows that AI adoption is high, especially for the areas, say content creation and
74 marketing.

75 Table 5.3 Chatbots and Personalized Interactions

Indicator	Percentage (%)
Consumers who used chatbots	67
People who prefer chatbots for 24/7 service	50

76 (Source:Secondary Data)

77 Table 5.4. Chi-Square Test -Observed Frequencies

78 H₀. There is no significant association between chatbot usage and preference.

79 H_i There is a significant association between chatbot usage and preference

80

Consumer Interaction	Prefer 24/7 (O / E)	Do Not Prefer 24/7 (O / E)	Total
Used Chatbots (67)	50 / 33.5	17 / 33.5	67
Did Not Use Chatbots (33)	0 / 16.5	33 / 16.5	33
Total	50	50	100

81 (Source:Table 5.3)

82

83 **Table 5.5 Chi-Square Test -Expected Frequencies**

Consumer Interaction	Prefer 24/7 (O / E)	Do Not Prefer 24/7 (O / E)	Total
Used Chatbots (67)	50 / 33.5	17 / 33.5	67
Did Not Use Chatbots (33)	0 / 16.5	33 / 16.5	33
Total	50	50	100

84 (Source:Table 5.3)

85 $\chi^2 = \sum (O - E)^2 / E = 49.26, df=1, \text{Critical Value } (0.05)=3.84$ 86 **Interpretation:**

87 As $\chi^2 > 3.84$ reject H_0 . There is a significant association between chatbot usage and preference
 88 for 24/7 service.

89 **5.6 Relationship Between AI and Customer Engagement**

S.No	Statement	Data (%)
1	Consumers more likely to buy with real-time personalization	98
2	Consumers spend more with brands using AI personalization	79
3	Personalization is important	90
4	Likely to abandon if engagement is impersonal	88
5	Retention increase with AI-driven engagement	25
6	Conversions increase with AI personalization strategies	40

90 **(Source:Secondary Data)**

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92

93 **Table 5.6. Deviations from Mean**

Statement	Data (%)	X-Mean	(X-Mean) ²
Consumers more likely to buy	98	28	784
Consumers spend more	79	9	81
Personalization is important	90	20	400
Likely to abandon if impersonal	88	18	324

Increase in retention	25	-45	2025
Increase in conversions	40	-30	900
Total	420	—	4514

(Source:Table 5.5)

Interpretation

Here $r = -0.808$, $r^2 = 0.652$, $p = 0.052$, covariance = -45.4 , $n = 6$, $t = -2.7394$
 Since r is negative, it is to be understood that a non-significant large negative relationship between AI adoption and engagement. This shows that less number of customers are staying loyal to the brands or completing purchases,

Findings

- The study shows that Artificial Intelligence is popularly employed in digital marketing for content creation, advertising, and customer interaction.
- Chatbots help businesses provide quick responses and 24/7 support, improving customer convenience.
- Tailor made marketing using AI enhances customer interest and purchasing behavior.

Suggestions

- Businesses should combine AI tools with human support for better customer rapport and experience.
- Companies should concentrate more on personalized marketing strategies.
- Proper protection of customer data is another matter of concern.

Conclusion

Artificial Intelligence plays an important role in enhancing customer engagement in digital marketing. It aids businesses to understand customers and deliver personalized services.

However, combining AI with human interaction will give better results and improve customer satisfaction.

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