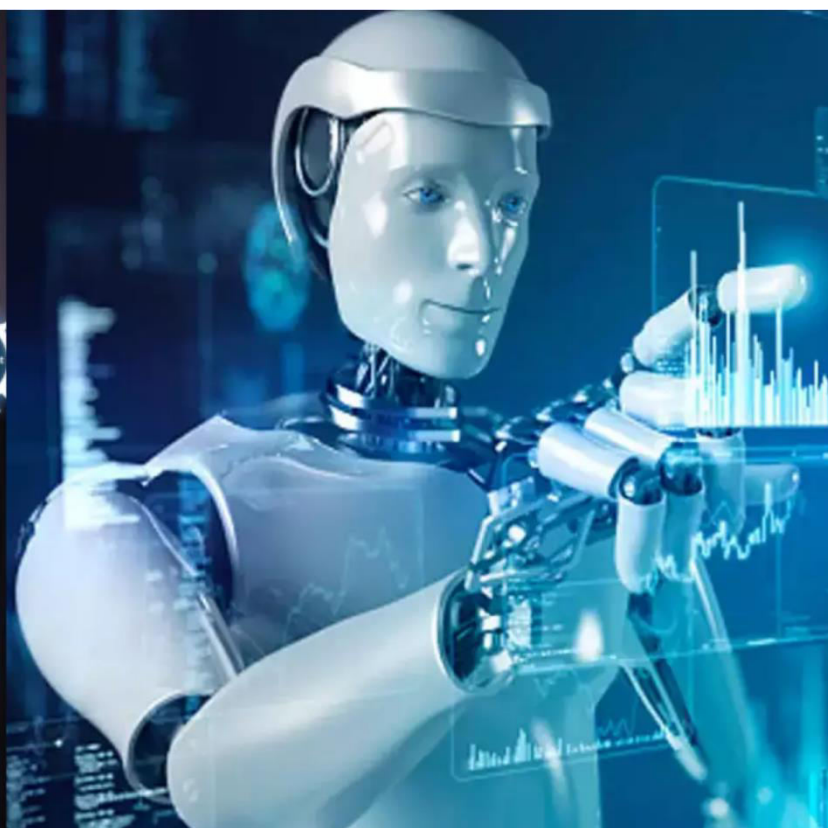




International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.699

Volume 14, Issue 7, July 2025

A Study on Effectiveness of AI Powered Chatbots for Engaging Customers with Special Reference to Coimbatore

Dr. Elavenil A K, Deekshana K

Assistant Professor, Department of Business Administration, Erode Arts and Science College (SF), Erode,
Tamil Nadu, India

Assistant Professor, Department of Information Technology, Bharathidasan College of Arts and Science, Erode,
Tamil Nadu, India

ABSTRACT: Businesses in all kinds of industries are now trying to find new methods to connect with customers, develop better relations with them and provide them with better service experiences. Artificial Intelligence (AI) is one of the new technologies that have impacted the whole approach of businesses to their customers, and one of the most innovative tools today is an AI-enabled. The objective of the study is to analyse on effectiveness of AI powered chatbots for engaging customers with special reference to Coimbatore. The sample of the study is 120. Descriptive research design and convenience sampling method has been used. Questionnaire has been used as a primary data. Simple percentage analysis, chi-square analysis and Anova statistical tools have been applied to reach the findings of the study. It is found that there is no significant relationship between the gender of the respondents and chatbot interactivity. There is impact of educational qualification of the respondents on chatbot features and functionality. It is suggested that to assess the happiness of the clients and conduct the necessary adjustments, listen to their feedback concerning the work of the chatbot. Move on to implementing the use of chatbots in existing service processes to streamline the work and increase the amount of work done and enhance the ways of integration of chatbot to the social platform media to be able to communicate and connect with the customers using different channels. It is concluded that study finds relevance given the fact that in the emerging digital economy, organisations need to be proactive in utilising the potential of chatbots in promoting customer engagement, customer satisfaction and loyalty.

KEYWORDS: AI powered, chatbots, customer engagement, social media platforms

I. INTRODUCTION

In the current business world where cut-throats have become the order of the day, customer engagement has risen as a very important indicator of organizational success. Businesses in all kinds of industries are now trying to find new methods to connect with customers, develop better relations with them and provide them with better service experiences. Artificial Intelligence (AI) is one of the new technologies that have impacted the whole approach of businesses to their customers, and one of the most innovative tools today is an AI-enabled chatbot.

The AI chatbots are computer training programs that imitate human dialogues and offer answers to customer questions immediately. These chatbots, through the use of natural language processing (NLP) and machine learning functions, have the ability to perceive, analyze and answer the customer inputs in an individual as well as economical way. This has seen them become preferable by businesses that need to offer 24-hours services, lower their cost of operation and increase customer satisfaction

It is getting highly significant to use AI-powered chatbots in Coimbatore, a city considered to be the Manchester of South India and major metropolis in terms of industries and upcoming IT services. The influential business climate and startup culture as well as the population and community base in the city offer a fresh environment to assimilate new breeds of digital solution. The companies in Coimbatore not only automate their regular customer support functions with chatbots but also use customers to participate in their personalized marketing programs, increase sales, and gather valuable information about customers.

The purpose of this study is to test how effective the use of AI-enabled chatbots is in communicating with customers in case of businesses working in Coimbatore. These are some of the main goals: to evaluate the level of chatbot interactivity as a means of customer attractiveness and satisfaction, to analyze the integration of chatbots with the social media sphere both in terms of providing service and marketing, to compare the characteristics and functions that make chatbots efficiently work in these areas. What is more, the research aims at estimating the level of chatbot efficiency in terms of enhancing the customer service delivery as a whole.

Through this research, other businesses that intend to use or enhance their chatbot approach will learn through this study the influence and role of AI-powered chatbots. The results will guide organizations in Coimbatore to improve their chatbot experiences, customer loyalty and offer them a competitive edge in a more digitalized marketplace. Finally, the paper will mark the contribution to the bigger discussion of customer engagement of the future and the rising role of AI in defining business-customer interactions.

Statement of the problem

Customers nowadays live in a fast-paced digital environment demanding personalized and fast business interactions and ready to boycott companies that do not perform, and conventional customer support sectors are unable to cope with the rising customer needs, and therefore loyalty decreases. One of the most promising and potentially successful solutions at the moment is the AI-based chatbots approach that provide 24-hour support and engaging without being time- and financially-consuming in terms of operational costs. There are still those customers who complain about chatbot interaction complaining about poor understanding, robotic responses as well as lack of a human touch. Although it has seen a lot of adoption very especially in the cities leading in technology in the society such as Coimbatore, the real efficiency of chatbots in boosting customer engagement and satisfaction is still obscure. Empirical research behind the effectiveness of chatbot interactivity on customer experiences and the effectiveness of integrating such systems with social media remain limited and there is no conclusive empirical evidence on the effectiveness of combining chatbots with social media to meet service and marketing objectives. Further, the effect of particular chatbot features and functions on the quality of customer services and satisfaction is understudied. This research is aimed at filling these gaps by determining the effectiveness of AI based chatbots in customer engagement with a particular interest on businesses in Coimbatore. Knowledge of these parts will guide organizations to come up with better chatbot strategies, better service delivery and build their customer relationships.

Objectives Of The Study

- To assess the chatbot interactivity in customer engagement and satisfaction
- To evaluate the effectiveness of integrating chatbots with social media platforms for customer service and marketing purposes
- To analyze the chatbot features and functionality for customer service and marketing purposes
- To measure the effectiveness of chatbots in enhancing customer service delivery

II. REVIEW OF LITERATURE

The article published in the Journal of Applied Research on e-commerce in India by Mehta and Raghavan (2025) focuses on how chatbots powered by the AI can contribute to customer satisfaction in an e-commerce firm of India. They discovered that chatbots brought down the time of response by a large margin and also assisted in answering the queries of customers in a more successful manner resulting in the rise in the level of satisfaction. However, they also observed that customers showed continued preference to human assistance to issues that were complicated and would be based on empathy and judgment. The article has also highlighted that chatbots should be devised to make them less robotic and more personal. In addition, it indicated the necessity of lifelong learning and updating to enhance the operation of chatbots. The results indicate that customers should be managed by human oversight in spite of the increased efficiency of chatbots to control operations.

Kumar and Jain (2024) argue that the inclusion of AI chatbots and the use of social media have led to more effective customer interactions in terms of retail brands. In their analysis, they found out that the use of chatbots in apps such as WhatsApp and Instagram has made companies get closer to the young ones and made their experience more personal. According to the authors, timely response and individual recommendations resulted in the growth of customer loyalty

and brand recall. They, however, warned that bad chatbot design or a repetitive response may prompt frustration and even brand introspection. The paper recommended that business entities ought to concentrate on maximizing conversational design and frequent editing of the content. Their conclusion serves as a reminder that being human-like in a communication process should be included as a balance to automation that is vital to the positive relations with customers.

In their 2023 article, Singh and Narayanan examined how the functions of a chatbot could be used to improve the quality of customer service in the banking industry. According them, multilingual support, transaction services and customized financial advice were features that enhanced customer satisfaction to a great extent. Customers also valued immediate quality customer support and the saving of time at the physical locations because of self-serviceability. However, the paper found the more fundamental fear of information privacy and lack of trust, to be big obstacles in mass adoption. The researchers pointed out the importance of having better data protection and communication being open to generate trust among the customers. Their work emphasizes that strong security and a clean value message should accompany the technological breakthroughs to thrive.

III. METHODOLOGY

This paper uses descriptive research design in examining the performance of the AI-driven chat bots in customer engagement with particular consideration of Coimbatore. The primary and secondary data have been used in the study to analyze in depth. The primary data will be done through a structured questionnaire which will be self-administered on respondents. Use of secondary data The secondary data would be gathered in form of published research articles, industry reports, company records, and other similar online sources in order to support and validate the primary findings. In the study, the sample size consists of 120 respondents. The customers who have used AI powered chatbots deployed by businesses in Coimbatore form the respondents. The convenience sampling method is also utilised to choose the participants since it is easy to access the respondents who are easily accessible and open to the survey. The results obtained in the course of the questionnaire will be measured in terms of proper statistical instruments, such as Chi-square test and Anova analysis.

Data Analysis and Interpretation

		No. of respondents	Percentage
Gender	Male	72	60.0
	Female	48	40.0
	Total	120	100.0
Age	18-25	23	19.2
	26-35	84	70.0
	36-45	10	8.3
	Above 45	3	2.5
	Total	120	100.0
Educational Qualification	Up to HSC	42	35.0
	UG	16	13.3
	PG	49	40.8
	Others	13	10.8
	Total	120	100.0
No. Of years engaging chat bots for business	Below 1 years	11	9.2
	1-2 years	58	48.3
	3-4 years	40	33.3
	Above 4 years	11	9.2
	Total	120	100.0

Type Of Marketing	B2C	45	37.5
	B2B	40	33.3
	C2B	35	29.2
	Total	120	100.0

INTERPRETATION:

The above table shows 60.0% of the respondents are male. 70.0% of the respondents are in the age group of 26-35, 40.8% of the respondents have completed PG, 48.3% of the respondents said that 1-2 years as No. of years engaging chat bots for business and 37.5% of the respondents said that B2C as their type of marketing.

V. CHI-SQUARE ANALYSIS

RELATIONSHIP BETWEEN THE GENDER OF THE RESPONDENTS AND CHATBOT INTERACTIVITY HYPOTHESIS TESTING

Null hypothesis (Ho): There is no significant relationship between the gender of the respondents and chatbot interactivity.

Alternative hypothesis (H1): There is some significant relationship between gender of the respondents and chatbot interactivity.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.704 ^a	12	.030
Likelihood Ratio	30.657	12	.002
Linear-by-Linear Association	12.369	1	.000
N of Valid Cases	120		
a. 16 cells (61.5%) have expected count less than 5. The minimum expected count is .40.			

INTERPRETATION:

As per the above table, it is inferred that the P value is 0.030; it is not significant to 5% (0.05) significant level. The minimum expected count is 0.40. Thus null hypothesis is accepted and it is found that there is no significant relationship between the gender of the respondents and chatbot interactivity.

VI. ONE WAY ANOVA TEST

EDUCATIONAL QUALIFICATION OF THE RESPONDENTS AND CHATBOT FEATURES AND FUNCTIONALITY

Chatbot features and functionality					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.241	3	4.414	13.997	.000
Within Groups	36.578	116	.315		
Total	49.819	119			

INTERPRETATION:

The table clearly shows that educational qualification of the respondents in chatbot features and functionality has a figure on 13.997 values and significance around 0.000 levels, than the sum of squares within group between group's values have 36.578 and 13.241 respectively. Hence, the significant value is less than 0.050 for which the significant percentage is not above 95%, hence rejecting null hypothesis. Thus, accepting alternative hypothesis i.e., There is impact of educational qualification of the respondents on chatbot features and functionality.

VII. SUGGESTIONS

- The business should use the quick answers or clickable buttons to make the customers more engaged in the chatbot.
- The chatbot should also include personalised responses based on the individual preferences of each customer and his/her previous encounter.
- Enhance the user experience by incorporating multimedia elements in your speeches e.g. add pictures and movies.
- Ensure that the chatbot dynamically responds to what users write so as to form a more interesting and lifelike relationship.
- Make use of pre-set triggers to initiate conversations capable of attracting consumers to pay attention to them.
- Enhance the ways of integration of chatbot to the social platform media to be able to communicate and connect with the customers using different channels.
- In order to be more accessible, answer consumer questions in the social media such as Twitter or Facebook Messenger.
- Use the advantages of the chatbots presence in the social media to generate awareness of the brand name and attract more customers.
- Monitor the influence of brand perception and consumer loyalty levels by chatbot communications in social media.
- Use the social media availability of the chatbot in a sensible way to support the customer service efforts.
- To enhance overall services, ensure that the chatbot lends responsive services in various consumer requests.
- Build a chatbot that is easy to operate in order to make the clients more satisfied.
- Chatbot is likely to answer questions posed by the customers in an effective and specific way to maintain the customers trust.
- Maintain a wide and updated knowledge base that would assist the chatbot to responsively respond to difficult questions.
- In order to enhance customer experience and effectiveness in service delivery, facilitate user movement in processes efficiently.
- When communication happens with the aid of chatbots, attempt to solve problems faster than in conventional ways.
- After ensuring that the chatbot can be used to take care of a large number of consumer requests, this will minimize the work that is required of the human agents.
- Watch the customer satisfaction in its service and fix the gaps with regard to the chatbot.
- To assess the happiness of the clients and conduct the necessary adjustments, listen to their feedback concerning the work of the chatbot.
- Move on to implementing the use of chatbots in existing service processes to streamline the work and increase the amount of work done

VIII. CONCLUSION

In conclusion, the study of chatbots as a marketing tool and customer support technology has revealed its infinity in terms of increasing user interest, the level of services, and the streamlining of business operations. Having discussed several considerations such as its interactive potential, custom response, multimedia functionality, and social media utilization, the conclusion that can be drawn is that chatbots provide a practical approach through which companies can engage their clients effectively through different types of media. The findings demonstrate the importance of implementing chatbots with simple user interfaces, accurate answers, and immense knowledge pool to make clients feel satisfied to create greater customer satisfaction. Another observation made on the survey is the significance of chatbots in initiating a conversation, resolving queries and the creation of brand perception and adherence when used on social media. It is also quite apparent that chatbots may be integrated into the existing service processes, leading to enhanced

customer experience and operation efficiencies. This study finds relevance given the fact that in the emerging digital economy, organisations need to be proactive in utilising the potential of chatbots in promoting customer engagement, customer satisfaction and loyalty.

REFERENCES

1. Abdelkader OA. (2023). ChatGPT's influence on customer experience in digital marketing: Investigating the moderating roles. *Heliyon*. 9(8):e18770.
2. Alfredo Daza (2023). The Impact of Chatbots on Customer Satisfaction: A Systematic Literature Review. *TEM Journal*. Volume 12, Issue 3, pages 1407-1417.
3. Kumar, R., & Jain, P. (2024). Social media chatbots: Transforming customer engagement in the retail sector. *International Journal of Marketing Trends*, 12(1), 112–127.
4. Mehta, A., & Raghavan, S. (2025). AI-powered chatbots and customer satisfaction in Indian e-commerce: A comprehensive analysis. *Journal of Business Technology*, 18(2), 45–59.
5. Meichan Li, Rui Wang (2023). Chatbots in e-commerce: The effect of chatbot language style on customers' continuance usage intention and attitude toward brand. *Journal of Retailing and Consumer Services*. Volume 71, 103209.
6. Sidlauskienė J, Joye Y, Auruskeviciene V. (2023). AI-based chatbots in conversational commerce and their effects on product and price perceptions. *Electron Mark*.33(1):24.
7. Silva, F.A.; Shojaei, A.S.; Barbosa, B. (2023). Chatbot-Based Services: A Study on Customers' Reuse Intention. *J. Theor. Appl. Electron. Commer. Res.* 18, 457-474.
8. Singh, V., & Narayanan, M. (2023). Evaluating chatbot functionalities for customer service in banking. *Journal of Financial Services Innovation*, 7(3), 78–92.



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 9940 572 462  6381 907 438  ijirset@gmail.com



www.ijirset.com

Scan to save the contact details