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A Study on Awareness Utilization and Satisfaction of Customers About Artificial Intelligence Chatbots for Customer Relationship Management with Special Reference to Coimbatore District

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Abstract: The emergence of Artificial Intelligence (AI) has revolutionized Customer Relationship Management (CRM), with AI-powered chatbots becoming indispensable tools for delivering efficient and responsive customer service. This study explores the awareness, utilization, and satisfaction levels of customers regarding AI chatbots in CRM, with special reference to Coimbatore District. The primary objectives are to measure customer awareness of AI chatbot technology, analyze utilization patterns across various service sectors including banking, retail, e-commerce, and telecommunications, and evaluate satisfaction levels based on chatbot performance and service quality. A descriptive research design was adopted. Primary data was collected through a structured questionnaire administered to selected respondents in Coimbatore District using convenient sampling. Statistical tools including percentage analysis, Chi-square test, weighted average method, and Likert scale were employed for data interpretation. The findings indicate moderate-to-high awareness among urban consumers, while utilization varies across age, income, and educational demographics. Key satisfaction drivers include response accuracy, 24/7 availability, ease of use, and query resolution efficiency.

Keywords: Artificial Intelligence, Chatbots, CRM, Customer Awareness, Customer Satisfaction, Coimbatore District.

I. Introduction

Artificial intelligence (AI) has influenced how we engage in our every day activities by designing and evaluating advanced applications and devices, called intelligent agents, which can perform various functions. A chatbot is an artificial intelligence program and a Human–computerInteraction (HCI) model. According to the dictionary, a chatbot is "A computer program designed to simulate conversation with human users, especially over the Internet". It uses Natural Language Processing (NLP) and sentiment analysis to communicate in human language by text or oral speech with humans or other chatbots. Artificial conversation entities, interactive agents, smart bots, and digital assistants are also known as chatbots.

II. Review of Literature

1) Ozuem et al. (2024) report that many users still prefer email communication over chatbots. One major reason is that some chatbots provide repetitive and generic responses. These responses may not fully address customer queries.

2) Abd Ali (2024) explains that advanced AI technologies enable chatbots to understand the tone and context of conversations. These technologies use various field theories to analyze communication patterns.

3) Vaswani and Shenoy et al. (2024) discuss the development of advanced AI models such as RNN and transformer-based architectures. These models have improved the contextual understanding of chatbot systems. Technologies like GPT models allow chatbots to produce fluent and meaningful responses.

4) Shahzad and Xu et al. (2024) highlight that advanced AI chatbots can identify the purpose behind a user's query. This ability helps chatbots provide personalized responses and solutions. By understanding customer intent, chatbots can respond more effectively.

5) Sharma and Mishra (2023) examine the impact of Artificial Intelligence on customer loyalty in the Indian retail sector. Their study shows that AI technologies help retailers understand customer preferences and purchasing behavior. Retail businesses use AI tools such as chatbots and recommendation systems to improve customer interaction. These technologies enable companies to provide personalized shopping experiences.

Statement of The Problem

The increasing use of artificial intelligence (AI) chatbots in customer relationship management (CRM) has transformed the way organizations interact with customers by providing quick, efficient, and personalized services. However, the level of customer awareness, extent of utilization, and degree of satisfaction regarding these AI chatbots vary significantly across different user groups. Many customers may not be fully aware of the features and benefits of chatbots, while others may face difficulties in usage or experience dissatisfaction due to technical limitations, lack of human touch, or inaccurate responses. Therefore, it becomes essential to study the awareness, utilization, and satisfaction of customers toward AI chatbots in CRM to identify existing gaps and challenges and to suggest improvements for enhancing customer experience and service effectiveness.

Objective of The Study

- To study the awareness of artificial intelligence (AI) chatbots.
- To study the impact on customers before and after the implementation of artificial intelligence (AI) chatbots.
- To determine the level of satisfaction among customers regarding the use of artificial intelligence (AI) chatbots.

III. Research Methodology Sample Design

- The sample consists of 150 respondents selected using the convenience sampling technique.
- The study was conducted in Coimbatore, focusing on customers who have interacted with chatbots in various sectors, such as e-commerce.

Sampling Technique

- The study uses Convenience Sampling Technique.
- It is a non-probability sampling method.

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- Respondents were selected based on easy accessibility and willingness to participate in the survey.
- Customers who were available and ready to provide responses regarding AI chatbot usage were included in the study.

Sample Size

• The study is based on 150 respondents.

• The respondents were selected from customers in Coimbatore District.

• These respondents include individuals who are aware of or have used Artificial Intelligence chatbots in customer service.

• The sample size was considered sufficient to analyse the awareness, utilization, and satisfaction levels of customers regarding AI chatbots.

TOOLS USED FOR ANALYSIS

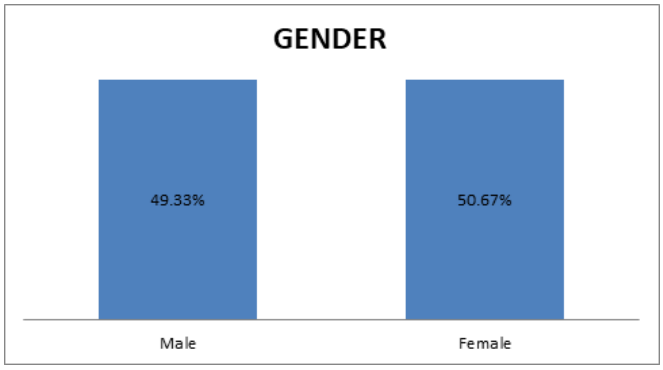
- Percentage Analysis
- Correlation
- Chi-squar

Analysis And Interpretation

GENDER
TABLE : 1

	No. of respondents	percentage	Cumulative percentage
Male	74	49.33%	49.33%
Female	76	50.67%	100%
Total	150	100%	100%

CHART : 1



Interpretation :

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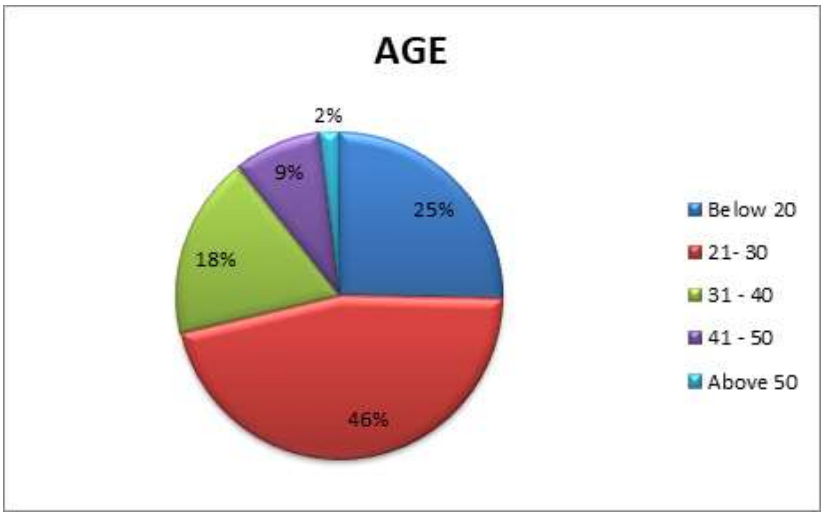
The chart shows the gender distribution of respondents, with 50.67% female and 49.33% male participants. This indicates a nearly equal representation of both genders, with a slight majority of females. The balanced distribution helps ensure that the study results are fair and not biased toward any one gender.

AGE
TABLE : 2

	No. of respondents	Percentage	Cumulative percentage
Below 20	38	25.3%	25.3%
21- 30	69	46%	71.3%
31 - 40	27	18%	89.3%
41 - 50	13	8.7%	98.0%
Above 50	3	2%	100%

CHART : 2



Interpretation :
The chart shows that the majority of respondents belong to the 21–30 age group (46%), indicating strong participation from young adults. This is followed by below 20 (25%) and 31–40 (18%) age groups. A smaller proportion is seen in 41–50 (9%) and above 50 (2%). Overall, the data suggests that younger individuals are more actively involved in the study and are more likely to use AI chatbots.Top of Form

IV. Results And Discussion Findings

The study found that most customers in Coimbatore are aware of Artificial Intelligence chatbots used in customer service, mainly through social media and company websites.

Suggestions

Companies should create more awareness about AI chatbots through advertisements, social media, and company websites so that customers understand their usefulness in customer service.

V. Conclusion

In this paper, an original approach to a Chatbot has been introduced. In particular, the proposed system is based e-learning platform for students. A real case has been investigated developing a Chatbot for the students of Fundamentals of Computer Science and Computer Networks courses. The results obtained by the experimental campaign are satisfying and show the good perspective of this kind of approach. Further developments involve the application of the proposed approach in various contexts and an improvement of elearning platform.

This paper presents an architectural design and implementation review of modern chatbot systems. The aim for this review is to provide an overview sense in regards to design practice as well as implementation strategy in modern chatbot systems. With this actuality, modern chatbot roadmap can be seen as within controlled trajectory where all future improvement is targeted towards same baseline objectives.

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