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# An Analytical Study of Customer Experience with Chatbot Support: Evidence from Amazon (India) Using Descriptive Analytics

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**Abstract** --The development of artificial intelligence, the use of the same in providing support to customers as part of the provision of assistance has become very common in the e-commerce industry using chatbots, whose role is to reply to the questions asked by the customers via text messages. Chatbots play a crucial role in ensuring that the problems raised by the customer are answered. For instance, customers can query about order tracking, refunds, product return, delivery among other things. However, while the support provided by the chatbots can be quick and convenient, the experience of different customers will depend on how easy, accurate and capable the chatbots are in meeting the needs of the customer. Therefore, the need for customer perception analysis arises to determine the level of customer satisfaction with chatbot support.

The Analytical Study of Customer Experience with Chatbot Support in Amazon India Using Descriptive Analytics” is the proposed title for this study. This study aims at analyzing the perception of the customers concerning chatbot support in Amazon India. Besides, the study will seek to measure customer satisfaction, understand chatbot support, examine issues facing customers when using chatbot support and compare customer preference between humans and chatbot support. To attain primary data needed, a questionnaire survey will be employed, which will then be subjected to descriptive analytics like percentage and graphical analyses.

**Keywords**-- Chatbot, Customer Satisfaction, Artificial Intelligence, E-commerce, Amazon India, Descriptive Analytics

## I. INTRODUCTION

The emergence of the digital economy led to the creation of new customer relations. To be more specific, customer support in the e-commerce sphere became an important matter because it is significant for customer experience and loyalty of the client. Hence, as the number of transactions increases, it becomes necessary for the company to develop new and effective means of communicating with customers. In this regard, various artificial intelligence solutions have been introduced as ways of customer support. A chatbot system is one of such innovations. The system implies that customers communicate through sending messages to receive automated answers from the support department. Moreover, chatbots can answer various questions and help customers resolve problems with the product/service provided by the company. Consequently, introducing chatbot technology allowed replacing the call center by providing 24/7 customer support via messages.

The study will examine customer experience with chatbot support to understand how customer experience can contribute to the provision of effective customer service through chatbot support at Amazon India. Chatbots are computer programs designed to use artificial intelligence to engage customers in simulated human conversations. Chatbots are designed to respond instantly to customer inquiries and provide the necessary support. E-commerce websites such as Amazon India use chatbots to assist their customers with various aspects including payment methods, tracking orders, product inquiries, delivery, returns, and other related matters. Customers can interact with chatbots using their smartphones, tablets, or any device that is connected to the internet.

## II. STATEMENT OF THE RESEARCH PROBLEM

The digital economy has transformed how companies interact with customers, making customer service crucial in e-commerce for ensuring satisfaction. To handle increasing customer queries efficiently, many companies use AI-based tools like chatbots, which provide instant responses for services such as order tracking, delivery updates, and returns. Chatbots offer 24/7 support and reduce reliance on traditional customer service, but customer experience is not always satisfactory due to issues like lack of understanding and incomplete responses. As customer experience directly impacts satisfaction and future usage, this study focuses on analyzing customer perception, satisfaction, challenges, and preference between chatbot and human support in Amazon India.

## III. REVIEW OF LITERATURE

Previous studies highlight the importance of chatbot performance in influencing customer satisfaction. **Kaplan and Haenlein (2019)** explain that AI-based systems improve service efficiency but must ensure usability and quality. **Ruan et al. (2022)** identify response speed and information accuracy as key factors affecting satisfaction.



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Wang et al. (2023) emphasize that chatbot systems improve customer engagement through real-time assistance. Kim and Kim (2023) state that chatbots are effective for routine queries but require better contextual understanding. Raza et al. (2025) highlight the importance of aligning technology with customer expectations. These studies support the objectives of this research, which focus on customer satisfaction, problem identification, and customer preference between chatbot and human support.

#### IV. RESEARCH OBJECTIVES

- To understand the level of customer satisfaction with AI chatbot support provided by Amazon India.
- To identify the problems faced by customers while using chatbot support.
- To study customer preference between human support and AI chatbot support.

#### V. RESEARCH DESIGN

Research design refers to the overall structure and plan of the study. This research uses a **descriptive design** to analyze customer experience, satisfaction, and issues related to Amazon India's chatbot support. A **quantitative approach** is followed, as the data variables are numeric and continuous, the data was analyzed using statistical methods. The study focuses on customers who have used chatbot support, with a sample of **250 respondents** selected through simple random sampling. Primary data was collected using a structured questionnaire via Google Forms and analyzed using descriptive techniques such as percentages and tables to ensure a systematic and reliable study.

#### VI. DATA COLLECTION METHODS

The study is based on **primary data collection** using a structured questionnaire to understand customer experiences with Amazon India's AI chatbot support. The questionnaire consisted of mainly closed-ended questions covering factors such as frequency of use, ease of use, response speed, understanding of queries, problem resolution, and customer preference between chatbot and human support. It was distributed using **Google Forms** for efficient and organized data collection. The respondents were individuals who had prior experience using chatbot support, ensuring relevant and reliable insights.

#### VII. SCOPE OF THE STUDY

1. The study focuses on customer experience and satisfaction with AI chatbot support used by Amazon India.
2. The research is based on customer opinions collected through a questionnaire and does not use internal company data.
3. The study analyzes customer satisfaction, problems faced during chatbot interactions, and customer preference between human support and AI chatbot support using descriptive analytics.

#### VIII. FRAMING OF RESEARCH HYPOTHESES

Hypotheses are used to test the relationship between variables related to the research problem. In this study, they are developed to examine how chatbot performance factors influence customer satisfaction and preference.

##### *Hypothesis 1*

H<sub>01</sub>: No significant relationship between chatbot response speed and customer satisfaction.

H<sub>11</sub>: Significant relationship between chatbot response speed and customer satisfaction.

##### *Hypothesis 2*

H<sub>02</sub>: No significant relationship between chatbot understanding of queries and customer experience.

H<sub>12</sub>: Significant relationship between chatbot understanding of queries and customer experience.

##### *Hypothesis 3*

H<sub>03</sub>: No significant relationship between chatbot problem resolution and customer preference.

H<sub>13</sub>: Significant relationship between chatbot problem resolution and customer preference.

#### IX. TECHNIQUES FOR DATA ANALYSIS

This study analyzes customer responses to identify patterns, trends, and relationships related to chatbot usage, satisfaction, and preferences. Descriptive analytical techniques such as percentage analysis, tabulation, and graphical representation (bar charts and pie charts) are used to summarize and present the data clearly.

Additionally, statistical methods are applied to test hypotheses, including **correlation analysis** to measure relationships between variables and the **chi-square test** to examine associations between categorical variables.

The analysis is based on data collected from 100 respondents through a structured questionnaire, helping to interpret customer experience and evaluate chatbot performance.

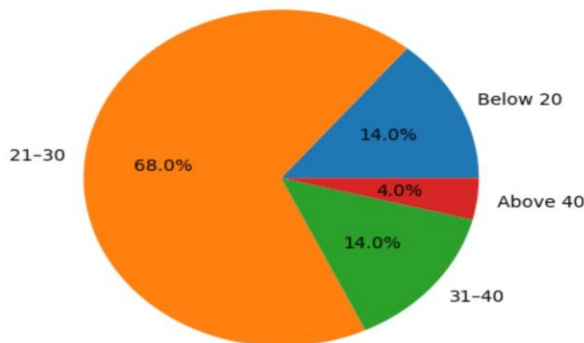
#### X. DATA ANALYSIS & INTERPRETATION

This section presents the analysis and interpretation of the data collected through the survey. The study is based on a sample size of **250 respondents**, and the data was collected using a structured questionnaire. The responses were analyzed using descriptive statistics and appropriate statistical techniques such as correlation and chi-square tests to examine relationships between variables. The results are presented using tables and graphs for better understanding. The analysis helps in identifying patterns in customer experience, satisfaction levels, and preferences related to chatbot support.

#### XI. DEMOGRAPHIC PROFILE

The demographic analysis shows that the majority of respondents belong to the age group of 21–30 years (68%), indicating that young adults are the primary users of chatbot support. Other age groups such as below 20 and 31–40 each represent 14%, while only 4% of respondents are above 40 years. This suggests that chatbot adoption is higher among younger users, while older age groups show relatively lower usage. In terms of shopping behavior, 49% of respondents shop occasionally on Amazon, followed by 29% who shop frequently and 22% who shop rarely. This indicates that chatbot support is used across different types of customers regardless of their shopping frequency.

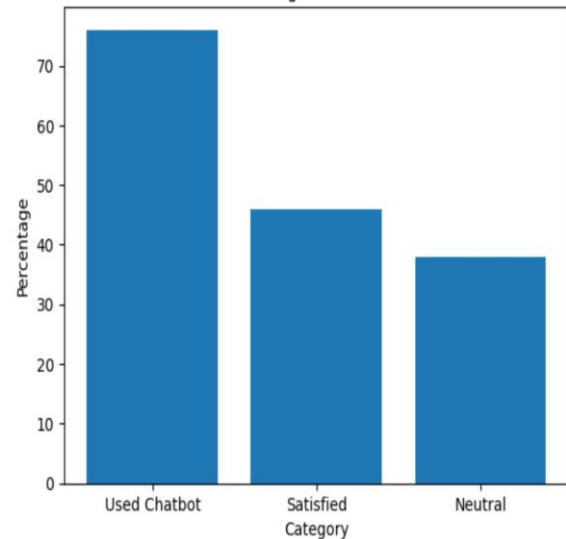
Age Group Distribution of Respondents



#### XII. USAGE & SATISFACTION

The analysis of chatbot usage shows that a significant majority (76%) of respondents have used chatbot support, indicating its importance in customer service. In terms of usability, most users rated the chatbot as easy to use, with 56% giving positive ratings, although some users still faced difficulties. Regarding response speed, 54% of respondents agreed that the chatbot provides quick replies, but a considerable portion remained neutral, showing inconsistency in performance. Similarly, chatbot understanding is moderate, with only 34% agreeing that it understands queries clearly, while 37% remained neutral. Problem resolution results show that only 43% of users had their issues fully resolved, while 40% experienced partial resolution. Customer satisfaction is also moderate, with 46% satisfied and 38% neutral, indicating that chatbot services meet basic expectations but require improvement for higher satisfaction.

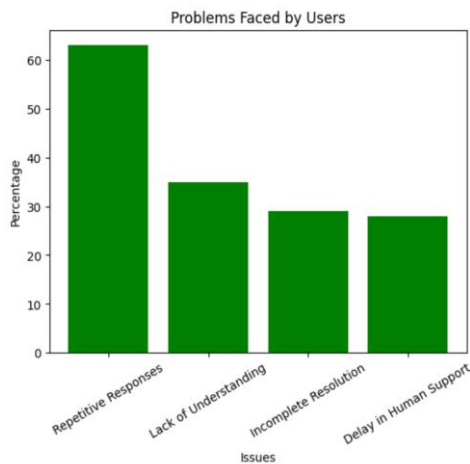
Chatbot Usage and Satisfaction



#### XIII. PROBLEMS FACED & PREFERRED SUPPORT

The study highlights that most respondents (69%) faced problems while using chatbot support, showing significant limitations in the system. The most common issues include repetitive responses (63%), lack of understanding of user queries (35%), incomplete problem resolution (29%), and delays in connecting to human support (28%).

These issues negatively impact the overall customer experience. When it comes to support preference, 46% of respondents prefer human support, while 37% prefer a combination of chatbot and human assistance, and only 17% prefer chatbot alone. This indicates that although chatbots are useful for basic tasks, customers still rely on human support for better clarity and problem resolution.



#### XIV. SUMMARY OF HYPOTHESIS TESTING RESULTS

H1: Response speed shows a moderate positive relationship with satisfaction ( $r = 0.38, p < 0.05$ )

H2: Understanding shows a stronger positive relationship ( $r = 0.462, p < 0.05$ )

H3: Problem resolution significantly affects customer preference ( $\chi^2 = 14.711, p < 0.05$ )

All null hypotheses are rejected.

Hypothesis	Test Used	Statistic Value	P-value
H1: Response Speed vs Customer Satisfaction	Pearson Correlation	0.380	0.000474
H2: Chatbot Understanding vs Customer Satisfaction	Pearson Correlation	0.462	0.000014
H3: Problem Resolution vs Customer Preference	Chi-Square Test	14.711	0.005339

#### XV. DESCRIPTIVE STATISTICS

Options	Count	Mean	Std	Min	Max
Response Speed	82.0	3.51	0.98	1.0	5.0
Understanding	82.0	3.40	0.97	1.0	5.0
Satisfaction	82.0	3.12	0.81	1.0	4.0

The results show that chatbot response speed (mean = 3.51) is generally rated positively, while chatbot understanding (mean = 3.40) is moderate and needs improvement. Customer satisfaction (mean = 3.12) is also moderate, indicating that users are not fully satisfied. The standard deviation values close to 1 suggest moderate variation in responses. Overall, chatbot performance is acceptable, but improvements are needed to enhance customer satisfaction.

#### XVI. RESEARCH OUTCOME

Most customers in Amazon India are using chatbot support, which shows that people are accepting AI-based services. Chatbots are mainly used for simple tasks like tracking orders, delivery updates, and returns. Younger users (21–30 age group) use chatbots more because they are comfortable with technology. Chatbots are easy to use and give quick replies, which improves convenience. However, they have some problems like repeating answers and not solving complex issues. Overall, customer satisfaction is moderate, and many users still prefer human support for difficult problems.

#### XVII. RESEARCH FINDINGS

1. Chatbot usage is high, with most respondents actively using it for basic services like order tracking and returns.
2. Customer satisfaction is moderate (mean = 3.12), indicating that chatbot services meet basic expectations but are not fully effective.



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3. Chatbot understanding has a stronger impact on satisfaction compared to response speed, highlighting the importance of accuracy.
4. Most users (69%) faced issues, mainly repetitive responses and lack of proper understanding.
5. Customers show a higher preference for human support, especially for complex problem resolution.

#### XVIII. RECOMMENDATIONS

1. *Improve chatbot understanding of user queries:* Since understanding has the strongest impact on satisfaction and many users reported issues (35%), chatbot systems should be enhanced using advanced NLP techniques to accurately interpret customer queries.
2. *Strengthen problem resolution capability:* As only 43% of users experienced complete issue resolution, chatbots should be improved to provide accurate and complete solutions instead of partial responses.
3. *Reduce repetitive responses:* With 63% of users facing repetitive answers, chatbot systems should be upgraded to deliver more dynamic and context-based responses.
4. *Integrate chatbot with human support:* As 46% of users prefer human support, a hybrid model should be implemented where complex queries are transferred to human agents.
5. *Enhance overall customer satisfaction:* Since satisfaction levels are moderate (mean = 3.12), improvements in understanding, response quality, and problem resolution are necessary to improve overall customer experience.

#### *Scope for Future Research*

Future research can improve this study by increasing the sample size and including people from different regions and backgrounds for better results. Researchers can also compare chatbot performance across different e-commerce platforms. Advanced analysis methods like regression can be used to study relationships between variables.

Further studies can focus on personalization, emotional AI, and how a combination of chatbot and human support can improve customer satisfaction.

#### XIX. CONCLUSION

The study concludes that chatbot support in Amazon India plays an important role in improving service efficiency and handling routine customer queries. However, customer satisfaction remains moderate due to limitations in understanding user queries and resolving complex issues. While response speed is satisfactory, accuracy and problem resolution are more critical in influencing customer experience. The findings indicate that customers still prefer human support for better clarity and effectiveness. Therefore, improving chatbot intelligence and integrating human support systems is essential to enhance overall customer satisfaction.

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