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# COMPARATIVE STUDY OF AI CHATBOTS AND HUMAN CUSTOMER SUPPORT: AMAZON AND SWIGGY"

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**ABSTRACT**
The rapid expansion of digital commerce has transformed customer service from traditional human-based systems to hybrid models integrating artificial intelligence. This study compares AI chatbot systems and human customer support on Amazon and Swiggy within the Indian digital market. Using a descriptive quantitative approach, data were collected from 110 respondents through a structured questionnaire. The analysis examined usage patterns, response speed, satisfaction levels, and user preferences for routine and complex issue resolution. Findings reveal that AI chatbots function as the primary customer service interface and are strongly associated with faster responses, efficiency, and higher overall satisfaction compared to human support. Chatbots are considered highly effective for routine concerns such as order tracking and refunds, while human assistance is preferred for complex or sensitive issues. The study concludes that a balanced hybrid service model, combining automation with human intervention, is essential for sustaining customer satisfaction in digital commerce.

***Keywords***: AI Chatbots, Human Customer Support, Digital Commerce, Customer Satisfaction, Hybrid Service Model, E-commerce, Quick Commerce, Automation, Amazon, Swiggy.



## 1. INTRODUCTION

The development of digital commerce has changed the customer service greatly. Previous models used a lot of face-to-face and call centers but the current online-based model has to rely on the technology-enabled communication systems to address the increasing consumer expectations.

Conventional e-commerce is oriented to the variety of products, security of operations, and profitable logistics, whereas fast commerce is oriented to speed and timely resolution of problems. In both models, customer support is a very significant element in influencing customer satisfaction and customer loyalty in the long run. AI chatbots have become automated dialogue systems that can process large numbers of requests in real-time and ongoing and provide operational efficiency and scalability. By contrast, human customer support agents add emotional insight, contextual interpretation, and able to make decisions in complicated cases. Examples of this shift to hybrid service systems are platforms like Amazon and Swiggy. Amazon usually directs the customers using chat bots to do the routine situations pertaining to order tracking, refunds, and returns and then issues that go unresolved are forwarded to human-only representatives. Swiggy, being a highly time-constrained delivery system, uses in-app chatbot solutions to ensure prompt services in the form of delivery delays, lost products, and payment issues, with human intervention applied to the unique or controversial cases. With more organizations beginning to invest in the field of artificial intelligence, it is important to evaluate whether such systems do actually improve customer experience or simply lower operational expenses.

With the objective to examine the efficiency of AI chatbot systems in resolving customer queries, the research paper will be based on a descriptive research design with the primary quantitative data gathered with the help of an online questionnaire including 110 participants. The aim of this paper is to evaluate the way customers perceive the artificial intelligence (AI) based chatbot and the human-operated customer service support system available on Amazon and Swiggy in India using feedback from 110 survey participants. The paper is divided into three parts-

conceptual discussion, literature evaluation and empirical analysis and interpretation. Results are discussed through the analysis in percentage form to compose the perception of the AI chatbot systems and the human customer support, finally giving evidence-based conclusions and suggestions.

## 2. LITERATURE REVIEW

The aspect of customer support is an important factor that defines satisfaction, trust, and customer retention in online commerce. Traditional systems are based on the use of call centers, email support, and live chat services provided by the trained representatives. Human agents present contextual insight, empathy and adaptable problem-solving especially in circumstances where complaints, refunds disputes or failure to perform services arise [1]. Responsiveness, assurance, and reliability are major aspects of service quality research that influence the evaluation done by customers [2]. Nevertheless, the cost of keeping high population human service teams is very expensive in terms of operation and in most cases the waiting time is increased when the demand is high.

The increasing popularity of high-volume online platforms has increased the rate of the use of AI-powered chatbot systems. These chat bots rely on natural language processing and machine learning algorithms in order to imitate dialogue and create automated replies [3]. A review of the literature by Issues in Information Systems identifies three major benefits of chatbot integration, namely instant communication, personalization based on data, and the delivery of information systematically [4]. In contrast to the previous rule-based chatbots, modern chatbots are able to continuously learn through adaptive methods to enhance their accuracy.

Automation has a lot of operational advantages. AI systems minimize response time and handle thousands of concurrent queries and are more scalable [3]. It has been shown that chatbots are especially useful at addressing more mundane issues like tracking an order, ceding a payment, or updating on the delivery. The paper also notes in a study by Compendium of Paper Asia that the speed and convenience of the chatbot usage are commonly linked to customers in the standardised transactional matters [5].

Despite the efficiency, the level of satisfaction differs based on the complexity of the issues even though automation optimizes efficiency. The 24/7 service and the real-time replies of the chatbots are usually valued by the customers [4]. Nevertheless, automated interfaces can have issues with ambiguous, emotionally sensitive or multi-layered issues. Empathy and personal approach studies are the focus of service recovery studies, and human agents are more likely to depict these aspects [1].

The efficiency of support systems is determined by the commerce models. Conventional e-commerce is one that makes deliveries on schedule and planned purchases, but quick commerce is based on the urgency of delivery expectations. In time-sensitive setting, quick automated reactions will improve the customer assurance. Nonetheless, problems like discrepancies in the delivery or conflicts occurring in refunds may have to be solved on a human level. The current literature does not often have a clear separation of these contexts of commerce and therefore constrains the knowledge of platform-based service performance [4]. It has been pointed out that the preference pattern between chatbots and human representatives is balanced: on one hand, chatbots are more popular in things of the daily routine, and on the other hand, human representatives are more active in cases of the complex or sensitive ones [5]. This assists to substantiate the concept of hybrid service models that combine automation and the envisaged channels of escalation.

Table 1: Identified research gaps in existing literature on AI chatbots and human customer support in e-commerce platforms.

| Research Gap | Current Understanding | Need For Further Study |
|---|---|---|
| Platform-specific evaluation | Most studies analye chatbots broadly | Lack of focused research on specific platforms |
| Quantified AI resolution rates | Efficiency discussed conceptually | Limited empirical percentage-based evidence |
| Quick vs traditional commerce differentiation | Minimal contextual segmentation | Service expectations vary significantly |
| Regional user studies | Limited focus on emerging markets | Cultural and behavioural differences underexplored |
| Escalation frameworks | Conceptually discussed | Insufficient practical measurement |

## 3. STUDY AREA BACKGROUND

This paper is based on customer support systems of Amazon and Swiggy, which are two large digital trading platforms based in India. These sites are various designs of internet business. Amazon is primarily a classical e-commerce market place that has a high range of products on offer whereas Swiggy is a quick commerce and food delivery company. In that they perform their services through various service frameworks, they offer a handy point of comparison between AI chatbot systems and human customer support.

The amount of transactions Amazon handles daily is very high and in different types of products. As a result, it is receiving numerous customer enquiries on order tracking, refunds, returns and the delivery problems. This volume can be served by the system that uses the chat systems based on AI as the first point of contact. Customers can be taken through automated responses to simple issues, and complex cases can be redirected to human representatives in case of need.

Swiggy, however, is a company that works in a significantly time-constrained environment. Most of the service problems require immediate response as customers want their food and groceries delivered within the shortest time. Customers are easily affected by complaints of late delivery of goods, misplaced goods or ordered goods when it comes to customer satisfaction. Due to this reason, Swiggy also counts on chatbot solutions to give immediate replies and notification about orders, but keeping humans here in case of more challenging or controversial circumstances.

The two operate in the fast and evolving digital market of India, where smartphone penetration and the adoption of the internet are on the rise. Even though they employ comparable automation technologies, they are different in terms of customer interactions since they have different delivery schedules and service expectations. A comparison of Amazon and Swiggy can help understand how AI chatbots and human support system behave in various operating conditions.

## 4. RESEARCH METHODOLOGY

4.1 General Overview

The research will evaluate the level of satisfaction, perceived effectiveness, and user preference of the model of automated and human assistance services. The methodology describes the research design, type of research, sampling, data collection process, and tools of analysis. The research design is descriptive research design because it aims at analyzing the experiences of customers that are in existence without any manipulated variables. Descriptive research suits to collect a structured information in a systematic way to comprehend the patterns and trends.The study is quantitative in nature. Quantitative approaches enable the gathering of quantifiable data and its statistical analysis. The perceptions are measured using closed-ended survey questions and Likert scale measures. This methodology will allow objectivity and the interpretation of the findings by percentages and graphs.

4.3 Population and Sample Size

The intended customers are Amazon or Swiggy users who have been engaged in any of the AI chatbot systems or human customer support. One hundred and ten respondents would take part in the survey.The respondents are mainly active users of digital commerce with most of them being in the age category of 18-35 years which means that they will be relevant to the research objective.

4.4 Data Collection Methods

Primary Data included the structured online questionnaire was used to gather primary data in the form of a 12-question questionnaire. The survey included demographic information, frequency of usage, experience using AI chatbots and human service and satisfaction and preference between routine and complex issue resolution. Whereas, most of the secondary data was extracted from journal articles and academic articles extracted through Google Scholar. Pie charts and a five point Likert Rating Scale was used for analysis.

## 5. DATA ANALYSIS

### 5.1 Overview of Analysis

The current chapter provides the survey data analysis of the survey data conducted on 107-110 respondents on their experience with an AI chatbot and human customer support system in Amazon and Swiggy. The aim is to assess the patterns of usage, the level of satisfaction, perceived effectiveness, and the preferences of the services. The percentage analysis and graphical representation have been done to interpret the data. To make a clear and precise analysis, the questions are analyzed in a group form based on the collages of the chart.

### 5.2 Analysis

Figure 1: Demographic profile and prior customer support interaction among respondents using Swiggy and Amazon (n = 107–110).

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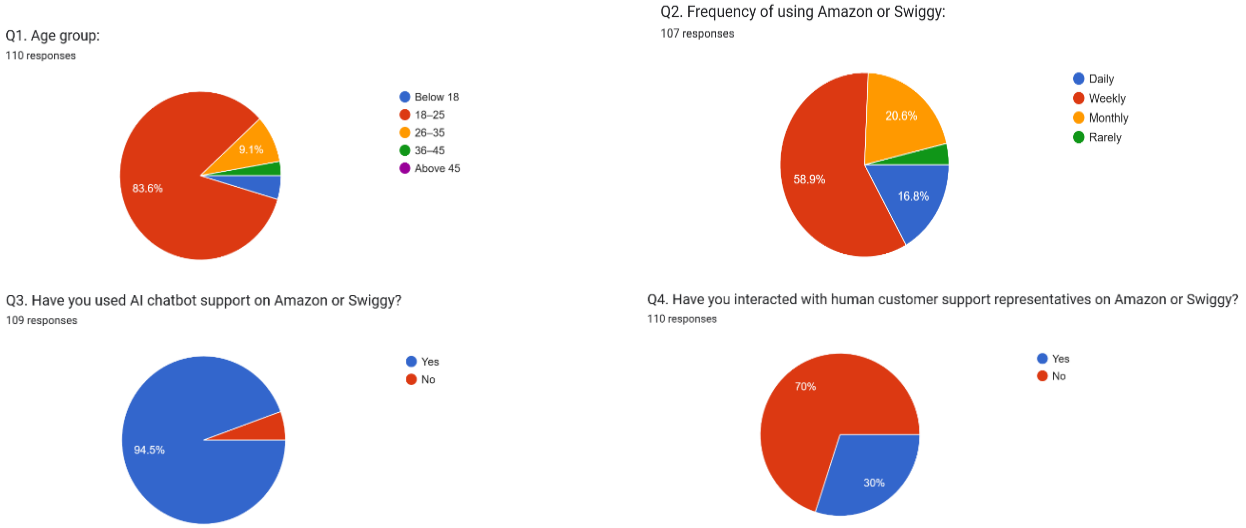


Figure 1: Demographic profile and prior customer support interaction among respondents using Swiggy and Amazon (n = 107–110).

The first four questions are concerned with respondent profile and usage behaviour of services. Most of the participants (approximately 84 percent) are aged between 18-25, which means that the sample is young and highly digital. The majority of the respondents visit Amazon or Swiggy at least once a week, which proves that they frequently come in contact with these services. The percentage (109 respondents) of those who have used AI chatbot support is also considerably high, and only one-third of the respondents claimed to have engaged with human representatives.This implies that the chatbot systems are the main support interface and that a lot of the problems will be solved without human intervention. The subsequent satisfaction responding is reinforced by the high exposure of the chatbot systems.

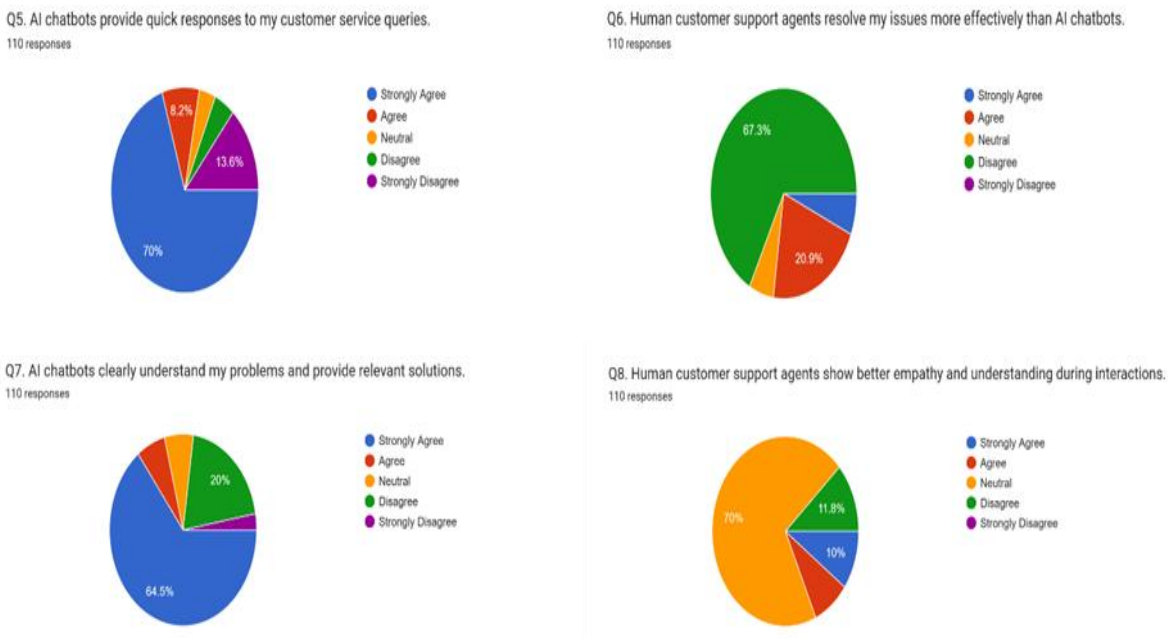


Figure 2: Comparative perceptions of service effectiveness, problem resolution, and empathy in AI chatbot and human customer support interactions on Swiggy and Amazon (n = 107–110).

Perceived performance and effectiveness are tested in questions 5-8. About 68 percent of people agree to a large extent that AI chatbots respond speedily, and this is one of the key strengths. In addition, almost 65 percent do not agree that human agents are better than AI in solving problems, which means that people have high faith in automated solutions. Half of them think chatbots are very aware of what they need, but about a fifth disagree, which may indicate that it is limited in dealing with more complex inquiries.

Mixed perception about human empathy is taken to be the case with the greatest percentage of 50 percent being neutral. This means that emotional involvement is never a powerful perception or can be varied in various interactions. On the whole, the responses in this section demonstrate the general positive attitude to the effectiveness of chatbots, primarily with respect to organized and normal situations.

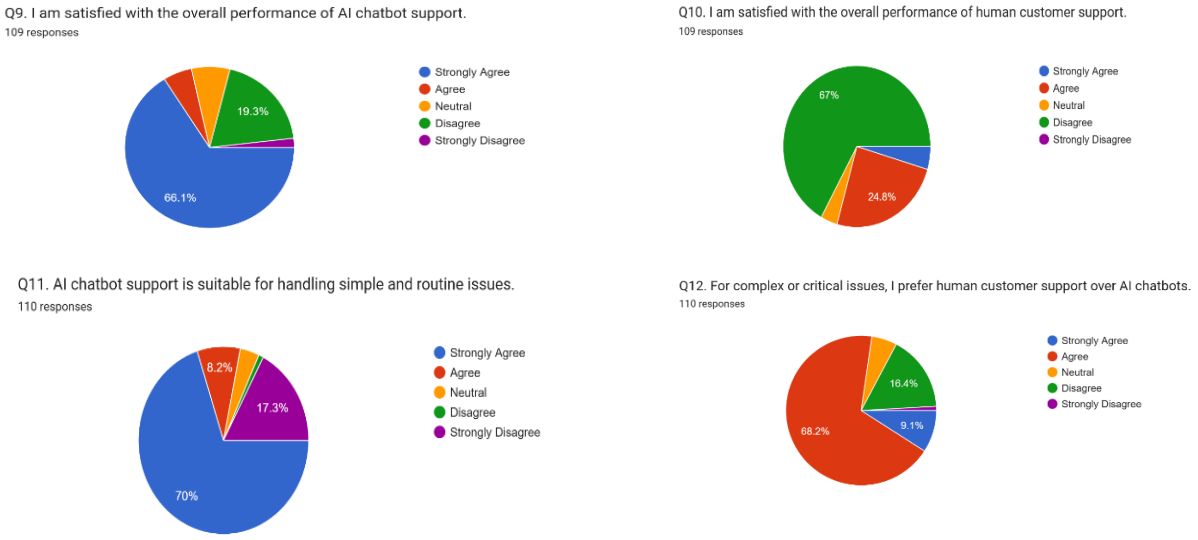


Figure 3: Overall satisfaction and situational preference for AI chatbot versus human customer support on Swiggy and Amazon (n = 107–110).

The questions 9-12 are related to satisfaction and preference. It is evident that the percentage of those satisfied with AI chatbot support is high compared to a percentage of those who are satisfied with human customer support. Almost 68 percent strongly believe that chatbots should be used by routine problems and this serves to strengthen the fact that they are an effective first level support system.

Nevertheless, in the case of complex or critical matters, around 67% of them want human help. This proves the fact that though chatbot systems are effective in standardized tasks, customers still find human judgment and flexibility as an important factor in complex cases.

The results confirm the idea of a hybrid service model when routine issues are handled by automation, and a human agent takes up escalated cases.

## 6. CONCLUSION

This study examined customer perceptions of AI chatbot and human customer support systems on Amazon and Swiggy. The findings indicate that AI chatbots have become the primary mode of customer interaction, largely due to their speed, availability, and convenience. A majority of respondents expressed higher satisfaction with automated systems, particularly for routine and structured concerns.

However, the study also highlights the continued importance of human support in handling complex, sensitive, or non-standard issues. While AI systems enhance operational efficiency and reduce waiting times, they do not fully replace the need for human judgment and empathy.

The results support the effectiveness of a hybrid service model, where automated systems manage high-volume routine interactions and human agents focus on escalated cases. Sustainable customer satisfaction in digital commerce depends on maintaining this balance between technological efficiency and human adaptability

## 7. LIMITATIONS

- The size of the respondents (110) is not reflective of the entire population.
- This limited generalisation of results because of convenience sampling.
- They are perception based answers, which could be subjectively biased.
- In order to dig deeper, no qualitative interviews were conducted.
- The subject of research is restricted to two platforms and other online services are not taken into consideration.

## 8. FINDINGS

- Most respondents have used AI chatbot systems, confirming that automated support serves as the primary customer service interface on Amazon and Swiggy.
- A large proportion associate chatbot systems with faster responses and immediate assistance, identifying efficiency as their strongest feature.

- Overall satisfaction ratings for AI chatbot systems are higher compared to human customer support.
- Chatbots are widely perceived as suitable for handling simple and repetitive concerns such as order tracking and refund requests.
- Fewer respondents reported interacting with human representatives, indicating that many issues are resolved at the automated level.
- Despite positive perceptions of AI, respondents prefer human support when dealing with complex or sensitive situations.

## 9. RECOMMENDATIONS

- Strengthen chatbot capability to better manage complex and multi-step queries.
- Ensure smooth and quick escalation from AI systems to human agents when required.
- Enhance training of human support staff to improve communication and consistency.
- Maintain a balanced hybrid model combining automation with human expertise.
- Regularly monitor response time, resolution rate, and satisfaction indicators.
- Increase personalization in chatbot interactions using customer data insights.

## 10. FUNDING

Nil

## 11. ACKNOWLEDGEMENT

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## 12. CONFLICT OF INTEREST

Not declared

## 13. INFORMED CONSENT AND ETHICAL STATEMENT

Not applicable

## 14. AUTHOR CONTRIBUTIONS

All authors are contributed equally.

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