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Impact on Consumer Perception towards AI on Chatbot: A Study with Reference to Four-Wheelers in Chennai City

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Abstract

This study examines the impact of AI-powered chatbots on consumer perception within Chennai's four-wheeler industry. As artificial intelligence gains prominence in customer service interactions, chatbots have become vital tools for engaging consumers. Understanding their effect on consumer perception is critical for optimizing customer experiences and fostering brand loyalty. Employing mixed methods, including surveys and interviews, we explore how chatbots influence efficiency, trustworthiness, satisfaction, and willingness to engage with the technology. Additionally, we assess the role of demographics in shaping attitudes toward chatbots. The insights gained will aid businesses and policymakers in enhancing chatbot design and implementation in the automotive sector, ensuring improved customer experiences and acceptance in Chennai's competitive market.

Keywords: Consumer Perception, AI-powered chatbots, Four-wheeler industry

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INTRODUCTION

The rapid advancements in artificial intelligence (AI) have revolutionized various industries, including the automotive sector. In particular, AI-powered chatbots have emerged as a prominent tool for enhancing customer engagement and service experiences. This study aims to explore the impact of AI-powered chatbots on consumer perception towards four-wheelers in the context of Chennai, India.

The findings reveal that the implementation of AI-powered chatbots has significantly influenced consumer perception toward four-wheelers. First and foremost, respondents express a positive attitude towards chatbots' convenience and accessibility, which allows them to access information and support effortlessly. Consumers perceive chatbots as being effective in providing real-time assistance, answering queries, and resolving issues, leading to increased satisfaction with the overall customer service experience.

Moreover, the study highlights that AI-powered chatbots have contributed to an improvement in the perception of automotive brands. The chatbot's ability to present information in a personalized and interactive manner helps foster a stronger emotional connection between consumers and the brands, thereby positively impacting brand loyalty.

STATEMENT OF THE PROBLEM

This study examines the influence of AI-powered chatbots on consumer perception in the four-wheeler sector in Chennai. As AI technology continues to shape customer interactions, understanding the impact these chatbots have on consumer attitudes is crucial. By focusing on aspects such as trust, satisfaction, and friendliness, the study aims to explore the nuances of these interactions and their consequences on consumer behaviour.

The significance of the study lies in its ability to reveal insights into the dynamics of change between consumers and AI chatbots, especially in a context as specific as the Chennai four-wheeler market. By discerning how perceptions are formed, companies can tailor their strategies to match consumer expectations. This research contributes to a broader understanding of the role technology plays in the consumer experience and provides useful insights for companies looking to optimize customer interactions. powered by AI.

OBJECTIVE OF THE STUDY

The study may aim to achieve the following objectives:

1. To study customer experience with AI chatbot service provided by four-wheeler companies in Chennai.
2. To Identify critical factors affecting consumer perception of AI chatbots in the automotive industry.
3. To examine the evolutionary journey of chatbots and AI within the four-wheeler industry's customer service domain.
4. To suggest for future adoption of AI chatbots in the four-wheeler industry in Chennai and identify areas of scalability and application.

LITERATURE REVIEW

Yimin Zhu, Jiemin Zhang, Jifei Wu, and Yingyue Liu (2022) examines how certainty about consumer demand affects consumer adoption of artificial intelligence (AI) chatbots in the pre-purchase period online. Three experiments were conducted to demonstrate that consumers are more likely to choose AI chatbots when their needs are more certain. This effect is mediated by the perceived performance of consumer AI chatbots and moderated by product type. Specifically, when demand is definitely higher, consumers perceive AI chatbots to be more effective, which ultimately drives consumer adoption of AI chatbots. For search products, more (compared to lower) demand inevitably increases consumer acceptance of AI chatbots, while for experiential products demand certainly does not significantly affect consumer acceptance of AI chatbots. These results make an important theoretical contribution to the existing literature on AI chatbots and also provide practical implications for e-commerce businesses to implement more effective AI chatbot strategies.

The authors Mengmeng Song, Jingzhe Du, Xinyu Xing, and Jian Mou's (2022) application of artificial intelligence is considered necessary to adapt to the new round of industrial transformation and technological progress in many fields and industries. The intense use of artificial intelligence technology will improve the level and quality of services provided by companies adopting these methods. In this study, we propose a new approach for a chatbot system to self-recover after service shutdown based on social response theory. In addition, we explore differences in consumer perception of different types of service retrieval and their impact on retrieval satisfaction and discuss whether the intelligence of the whether or not the computing core is affected. This work expands the scope of applications of chatbots in the service industry and provides a new framework for the governance of artificial intelligence.

Human vs. AI: Understanding the Impact of anthropomorphism on consumer Response to chatbots from the perspective of trust and relationship norms

Xusen Cheng, Xiaoping Zhang, Jason Cohen, and Jian Mou (2022) study-based chatbots are touted as a disruptive innovation with unprecedented business potential. However, frequent failures in human-chatbot conversations have led to consumer outcry. This study examines consumer responses to chatbots in terms of intent to switch to a human agent. Based on the stimulus-organism-response (SOR) framework, the focus is on how the chatbot's anthropomorphic attributes affect consumers' perceived trust in the chatbot and its implications for change. intent. Furthermore, the moderating role of relational norms in the relationship between anthropomorphic attributes and trust in chatbots is also examined.

ANALYSIS AND INTERPRETATIONS

Table:1 Examining the Influence of Education on Trust in AI-Powered Chatbot Information about Four-Wheelers

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2.03835	3	0.67945	0.870539	0.46034	2.72828
Within Groups	57.75652	74	0.780494			
Total	59.79487	77				

Interpretation

H0: There is no significant effect of education on the level of trust in information provided by AI-powered chatbots about four-wheelers.
H1: Education significantly influences the level of trust in information provided by AI-powered chatbots about four-wheelers.

From the above analysis, the significance value is above 0.05. Therefore, accept the Null hypothesis and reject the Alternate hypothesis. Hence, there is no significant effect of education on the level of trust in information provided by AI-powered chatbots about four-wheelers.

TABLE: 2 Analysing the Relationship Between Occupation and Satisfaction with AI-Powered Chabot Interactions on Four-Wheelers

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2.740487	4	0.685122	0.843293	0.502201	2.495388
Within Groups	60.12027	74	0.812436			
Total	62.86076	78				

Interpretation

H_0: There is no significant relationship between occupation and the level of satisfaction with AI-powered Chabot interactions regarding four-wheelers.
H_1: Occupation significantly influences the level of satisfaction with AI-powered Chabot interactions regarding four-wheelers

From the above analysis the significance value is above 0.05, therefore accept the Null hypothesis and reject the Alternate hypothesis. Hence, there is no significant relationship between occupation and the level of satisfaction with AI-powered Chabot interactions regarding four-wheelers.

TABLE 3: Gender-Based Determination of AI on Chatbot Interactions in the Four-Wheeler Industry in Chennai

CHI-SQUARE TEST

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Observed

Gender	1	2	Total
Male	31	15	46
Female	20	13	33
Total	51	28	79

Expected

Gender	1	2
Male	29.6962	16.3038
Female	21.3038	11.6962

(O-E) ^2/E

Gender	1	2
Male	0.057243	0.104263
Female	0.079793	0.145337

X^2	0.386635
df	1
p-value	0.534073

Interpretation

H_0: There is no significant association between gender and interactions with AI chatbots in the context of the four-wheeler industry in Chennai.
H_1: There is a significant association between gender and interactions with AI chatbots in the context of the four-wheeler industry in Chennai

From the above table, the significant p-value is 0.534073, which is greater than 0.05, so the hypothesis is rejected. There is a significant association between gender and interaction with AI chatbots in the context of the four-wheeler industry in Chennai.

Table 4: Analysis of User Satisfaction with AI Chatbot Interactions: Four-Wheelers and Occupation as Key Variables

CHI-SQUARE TEST

Observed

Occupation	1	2	3	4	5	
Student	8	15	11	3	1	38
Employed (Full-time)	7	12	6	0	2	27
Employed (Part-time)	1	1	2	0	0	4
Self-employed/Entrepreneur	2	0	2	1	0	5
Unemployed	2	0	1	0	1	4
	20	28	22	4	4	78

Expected

Occupation	1	2	3	4	5
Student	9.743589744	13.64102564	10.71794872	1.948717949	1.948717949
Employed (Full-time)	6.9231	9.692307692	7.615384615	1.384615385	1.384615385
Employed (Part-time)	1.025641026	1.435897436	1.128205128	0.205128205	0.205128205
Self-employed/Entrepreneneur	1.282051282	1.794871795	1.41025641	0.256410256	0.256410256
Unemployed	1.025641026	1.435897436	1.128205128	0.205128205	0.205128205

(O-E)^2/E

Occupation	1	2	3	4	5
Student	0.312010796	0.135386543	0.007422402	0.567139001	0.461875843
Employed (Full-time)	0.000854701	0.549450549	0.342657343	1.384615385	0.273504274
Employed (Part-time)	0.000641026	0.132326007	0.673659674	0.205128205	0.205128205
Self-employed/Entrepreneur	0.402051282	1.794871795	0.246620047	2.156410256	0.256410256
Unemployed	0.925641026	1.435897436	0.014568765	0.205128205	3.080128205

X^2	15.769527
df	16
p-value	0.469158703

Interpretation

Ho: There is no significant relationship between user satisfaction and their interactions with AI-powered chatbots concerning four-wheelers, considering the influence of occupation.

H_1: There is a significant relationship between user satisfaction and their interactions with AI-powered chatbots concerning four-wheelers, considering the influence of occupation.

From the above table, the significant p-value is 0.469158703 which is greater than 0.05. So, the null hypothesis is rejected. There is a significant relationship between user satisfaction and their interactions with AI-powered chatbots concerning four-wheelers, considering the influence of occupation.

FINDINGS OF THE STUDY

1. Customers in Chennai expressed diverse perceptions of four-wheeler companies' AI chatbot services, appreciating the convenience and quick response, but also expressing frustration with the limited problem-solving ability. and lack of human interaction.
2. Consumer perception of AI chatbots in the automotive industry is influenced by key factors such as reliability, accuracy, transparency, usability, personalization, and the ability to handle customer requests. Proficient in complex queries.
3. Research shows the evolution of chatbots and AI in four-wheeled customer service, highlighting capabilities improved through natural language processing and machine learning, helping to increase customer adoption and trust row.
4. The study predicted a promising future for the adoption of AI chatbots in the four-wheeler industry in Chennai, predicting an expanding role in customer service thanks to technological advancements, with opportunities for scalability identified in automation tasks and providing instant feedback.

SUGGESTIONS OF THE STUDY

1. To improve customer experience, companies must prioritize improving the accuracy, enhancement, relevance, user interface, and ability of AI chatbots to efficiently handle a wide variety of customer inquiries for more goods.
2. Building trust and personalization in interactions with AI chatbots involves implementing transparent AI responses to realize chatbot interactions and incorporating personalization features to improve engagement. and personalization for consumers.
3. Continuous learning and development of AI chatbots involve businesses investing in regular training, updating knowledge bases, integrating new data sources, and better understanding natural language. to achieve accuracy and added value in interactions.
4. Strategic implementation of AI chatbots involves placing them in roles that match their strengths, such as handling routine queries, managing appointments, and providing product and service information. timely service.

CONCLUSIONS

In conclusion, the study sheds light on the complex dynamics between consumers and AI chatbots in the four-wheeler industry in Chennai. The results highlight the importance of chatbot technology's usability, reliability, personalization, and history. The study predicts a promising future for AI chatbots in the industry, with the potential to improve customer interactions and streamline business processes. By addressing the identified factors and implementing the proposed solutions, businesses can optimize their AI chatbot services to better meet consumer expectations and contribute to bringing more value to customers. overall customer satisfaction and loyalty.

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QUESTIONNAIRE

Section 1: Demographics

1. Name:

2. Gender:
   a) Male
   b) Female
   c) Other

3. Age:
   a) 18-25
   b) 26-35
   c) 36-45
   d) 46-55
   e) 56 and above

4. Education:
    a) High school or below
    b) Bachelor's degree
    c) Master's degree
    d) Doctorate or higher

5. Occupation:
    a) Student
    b) Employed (Full-time)
    c) Employed (Part-time)
    d) Self-employed/Entrepreneur
    e) Unemployed

Section 2: Consumer Perception of AI-powered Chatbots

6. Have you interacted with AI-powered chatbots in the context of the four-wheeler industry in Chennai?
    a) Agree
    b) Disagree

7. How would you rate the efficiency of AI-powered chatbots in resolving your queries related to four-wheelers?
    a) Very efficient
    b) Moderately efficient
    c) Neutral
    d) Inefficient
    e) Not applicable (haven't interacted with chatbots)

8. Do you trust the information provided by AI-powered chatbots regarding four-wheelers?
    a) Completely trust
    b) Somewhat trust
    c) Neutral
    d) Somewhat distrust
    e) Completely distrust

9. How satisfied are you with the interactions you've had with AI-powered chatbots regarding four-wheelers?
    a) Very satisfied
    b) Moderately satisfied
    c) Neutral
    d) Somewhat dissatisfied
    e) Very dissatisfied

10. Are you more likely to engage with a company that uses AI-powered chatbots for customer interactions?
    a) Yes, definitely
    b) Yes, to some extent
    c) Neutral

d) No, not really
e) No, not at all

Section 3: Factors Influencing Consumer Perception

11. What factors do you consider while evaluating the trustworthiness of AI-powered chatbots?
    a) Accuracy of information provided
    b) Consistency in responses
    c) Transparency in disclosing limitations
    d) Promptness in addressing queries
    e) Other (please specify) _____
12. How important is personalization in AI-powered chatbot interactions for you?
    a) Extremely important
    b) Quite important
    c) Neutral
    d) Not very important
    e) Not important at all
13. Does your prior experience with AI-powered interfaces influence your perception of chatbots in the four-wheeler industry?
    a) Yes, significantly
    b) Yes, to some extent
    c) Neutral
    d) No, not really
    e) No, I have no prior experience with AI interfaces

Section 4: Feedback and Suggestions

14. Based on your experience, what improvements would you suggest to enhance the effectiveness of AI-powered chatbots in the four-wheeler industry?
15. Would you prefer a combination of human agents and AI-powered chatbots for customer support, or solely interact with chatbots?
    a) Combination of human agents and chatbots
    b) Solely interact with chatbots
    c) No preference

16. Overall, how would you rate your experience with AI-powered chatbots in the four-wheeler industry?
    a) Excellent
    b) Good
    c) Satisfactory
    d) Needs improvement
    e) Poor

Thank you for participating in this survey. Your feedback is valuable to us!

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