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AN EXAMINATION OF THE IMPACT OF CHATBOT CHARACTERISTICS ON CUSTOMER SATISFACTION IN E-RETAILING: A STUDY IN THE COIMBATORE REGION

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ABSTRACT

The integration of chatbots into e-retailing platforms has emerged as a transformative tool for enhancing customer service and improving user experiences. This study investigates how specific chatbot characteristics—such as responsiveness, accuracy, personalization, and reliability—influence customer satisfaction within the e-retailing sector in the Coimbatore region. Using a descriptive research design, data were collected through structured questionnaires from 106 respondents who engage with online retail apps and chatbots. The findings reveal that while chatbots are generally perceived as effective tools for streamlining interactions and providing timely assistance, their impact on customer satisfaction varies based on factors such as usability, trustworthiness, and perceived efficiency. Statistical analysis, including percentage analysis, chi-square tests, and ANOVA, was employed to evaluate associations and differences across demographic variables. Results indicate that while chatbot usage is largely favored, concerns regarding privacy, functionality, and contextual understanding persist. The study concludes that optimizing chatbot features can significantly enhance customer satisfaction, although continuous refinement and alignment with user expectations are essential. These insights provide actionable recommendations for e-retailers seeking to improve their digital engagement strategies through more effective chatbot deployment

KEYWORDS: *Chatbots, Customer Satisfaction, E-Retailing / E-Commerce, Artificial Intelligence (AI), Customer Experience, Online Shopping, Chatbot Usability, Service Quality*

INTRODUCTION

In the rapidly evolving landscape of e-commerce, businesses are increasingly adopting artificial intelligence (AI)-driven solutions such as chatbots to streamline customer interactions and improve service delivery. Chatbots, as conversational agents, offer real-time responses and personalized communication, which are critical in meeting the dynamic needs of modern consumers. In this context, customer satisfaction is shaped not only by the efficiency of these automated systems but also by their ability to replicate human-like interaction and address individual preferences.

The city of Coimbatore, known for its growing e-retailing ecosystem, presents a unique environment to examine how chatbot attributes influence consumer perceptions and satisfaction levels. Despite the proliferation of chatbots in various sectors, empirical studies assessing their effectiveness in regional e-commerce settings remain limited. Therefore, this research is motivated by the need to understand whether and how chatbots contribute to customer satisfaction in the local e-retailing industry.

Customer satisfaction, defined as the extent to which service delivery meets or exceeds user expectations, is a key performance indicator for businesses aiming to retain customers and foster loyalty. As chatbots become more embedded in digital commerce, their role in shaping customer experiences becomes increasingly significant. However, challenges related to usability, security concerns, and functional limitations may hinder their potential to deliver optimal satisfaction.

This study seeks to bridge the gap in existing literature by evaluating the relationship between chatbot characteristics and customer satisfaction within a regional framework. By focusing on the Coimbatore area, it provides localized insights that can inform broader strategies for chatbot implementation in e-retailing contexts.

REVIEW OF LITERATURE

Ja-Shen Chen, Tran-Thien-Y Le, Devina Florence (2021) The rapid evolution in artificial intelligence (AI) has redefined the customer experience and created huge opportunities for companies to interact with customers using chatbots. This study explores the role of AI chatbots in influencing the online customer experience and customer satisfaction in e-retailing.

Moch Akbar Selamat, Nila Armelia Windasari (2021) Chatbots have been widely adopted to create more positive customer experiences as customers now spend more time in digital environments. Despite the technological advancement and

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benefits of chatbots for customer service, research on chatbot applications for Small and medium- sized enterprises (SMEs) is limited. The absence of research explaining the struggles faced by SMEs contributes to the gap of SMEs' chatbot adoption.

Akawut Jansom Thaksaorn Srisangkhajorn Limarunothai (2022) Many apparel retailing brands use e-service marketing tools such as a chatbot (a system that is available 24 hours a day, 7 days a week) to increase their competitive advantage in today's world of digitalization. During the COVID-19 pandemic, chatbots gained more power to serve as a communication tool that provides information and maintains customer experience.

Xinyu Xing, Mengmeng Song, Yucong Duan, Jian Mou (2022) The increasing application of artificial intelligence to online retailing and the rapid deployment of online robots have made online robot service failures common. This study explores consumer response mechanisms to different types of service failures and recovery strategies of chatbots based on role congruity theory and psychological accounting theory.

Susana C. Silva, Roberta De Cicco, (2022) Chatbots represent an undeniable player between online retailers and customers as they boost operational efficiency and bring cost savings to businesses while offering convenience for customers in terms of timing and immediacy. However, as chatbots represent a new-born online touch point in retailing, especially when it comes to online pre-purchase and purchase experience, this study examines whether and how effort expectation, facilitating condition, performance expectancy, social influence, trust, perceived risk and flow affect consumers' intention to use chatbots for online shopping. The purpose of this paper is to address this issue.

Chin-Lung Hsu, Judy Chuan-Chuan Lin (2023) states that the artificial intelligence (AI) chatbot is emerging as a significant corporate customer-facing application, potentially increasing customer service efficiency while reducing costs. However, little work has sought to assess the quality of service they provide consumers. This study applies the e-service quality by incorporating conversational AI quality to predict users' satisfaction and loyalty to customer service chatbots. The proposed model was empirically evaluated using survey data collected from 219 users responding about their perceptions of customer service chatbots. The findings indicate that AI chatbot service recovery quality and AI chatbot conversational quality significantly influence user satisfaction. On the other hand, core AI chatbot service quality and satisfaction significantly influenced chatbot user loyalty.

Meichan Li, Rui Wang (2023) the utilization of chatbots has grown in popularity in recent years, leading to an increasing interest among academics and practitioners. This study investigates the effect of chatbot language style on customers' continuance usage intention and attitude toward brand. Two scenario-based experiments were conducted to examine the underlying mechanism. The results show that when chatbots adopt an informal (vs. formal) language style, customers' continuance usage intention and brand attitude increase through the mediating role of para social interaction

Adnan Zogaj, Linyu Yang, Dieter K. Tscheulin (2023) Chatbots are increasingly used as substitutes for human service agents in online shops. This has led researchers to analyze how chatbot characteristics influence consumer responses. However, while the relevance of chatbot characteristics has been examined, to date, consumers' personalities have remained unattended in the research on this innovative mode of online support. Therefore, this study aims to understand how the interaction of consumer characteristics and chatbot characteristics influences consumer behavior.

Pranay Sindhu (2023) The research investigates the effects of chatbot-delivered verbal and non-verbal cues on customers' purchase intentions on social commerce pages . The research using a multi-method approach also investigates the role of social presence and ulterior motives in explaining the effects of the chatbot-delivered human- like cues on customers' purchase intentions .

Yi Jiang, Xiangcheng Yang, Tianqi Zheng (2023) As one of the most popular AI applications, chatbots are creating new ways and value for businesses to interact with their customers, and their adoption and continued use will depend on users' trust. However, due to the non-transparent of AI-related technology and the ambiguity of application boundaries, it is difficult to determine which aspects enhance the adaptation of chatbots and how they interactively affect human trust.

Hongyu, MH Naqvi (2024) This study aims to determine whether or not fashion retail brands can maintain their essence by providing personalized care through conventional face-to-face interactions or the use of e-services. Chatbot e-services might potentially enable dynamic and fascinating interactions between firms and their consumers. To personalize a Chatbot, firms might change the tone of the language used. Customers are more likely to use a Chatbot if it resembles a real person, which increases their pleasure and confidence in the products.

RESEARCH GAP

Despite the growing interest and rapid advancements in chatbot technology, significant research gaps persist regarding their impact on customer satisfaction in the e-retailing context, particularly within specific regional settings such as Coimbatore. While numerous studies have examined the functional aspects of chatbots—such as responsiveness, language style, and service quality—many have overlooked how these factors interact with customer preferences in localized e-commerce ecosystems. Moreover, much of the existing literature focuses on large-scale, international retail environments, leaving a gap in understanding the challenges and opportunities faced by small and medium enterprises (SMEs) in adopting chatbot technologies.

Another critical gap lies in the evaluation of user experiences across different demographics and usage intensities. Although research has explored chatbot design and technical capabilities, limited empirical work has been conducted on how users perceive chatbots versus human interaction, and how these perceptions influence satisfaction and loyalty. Furthermore, aspects such as trust, emotional engagement, and perceived security remain underexplored in regional studies, despite being central to digital interaction.

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This study aims to address these gaps by focusing on the Coimbatore e-retailing sector, analyzing how chatbot characteristics influence customer satisfaction, and offering actionable insights for more effective chatbot integration tailored to regional consumer behaviors.

OBJECTIVE OF THE STUDY

The primary objective of the study is to evaluate how chatbot characteristics influence customer satisfaction in the e-retailing sector of Coimbatore, by examining user preferences, demographic influences, trust, emotional engagement, and perceived security, in order to provide recommendations for improved chatbot integration.

ANALYSIS AND INTERPRETATION

Table No: 1 - Showing Socio - Economic background of the respondents

Factor	Category	No of Respondents	Percentage
Age	Below 20	17	16%
	21 – 25 Years	46	43.4%
	26 – 30 Years	22	20.8%
	Above 30	21	19.8%
Gender	Male	50	47.2%
	Female	56	52.8%
Educational	Schooling	12	12.3%
Qualification	UG	48	45.3%
	PG	31	29.2%
	Diploma	14	13.2%
Locality	Urban	72	67.9%
	Rural	34	32.1%
Annual Income	Below 5 Lakhs	26	24.5%
	5 – 10 Lakhs	28	26.4%
	Above 10 Lakhs	52	49.1%
Hours Spend on Online Shopping in a Month	Less Than 2 Hours	29	27.4%
	2 – 6 Hours	61	57.5%
	More Than 6 Hours	16	15.1%
Preference Level	Chatbot	77	72.6%
	Human Assistance	29	27.4%
Sources	Friends	23	21.7%
	Family	14	13.2%
	Colleague	15	14.2%
	Internet	34	32.1%

Table No 2 – Showing the level of Opinion towards Chatbots by the Respondents

Factor	Opinion	No of Respondents	Percentage
The chatbot guides effectively during the service	Strongly Disagree	5	4.7%
	Disagree	10	9.4%
	Neutral	44	41.5%
	Agree	36	34%
	Strongly Agree	11	10.4%
The chatbot has the required functionalits to serve the respondent	Strongly Disagree	9	8.5%
	Disagree	14	13.2%
	Neutral	35	33%
	Agree	34	32.1%
	Strongly Agree	14	13.2%
The chatbot will provide the help that respondents need	Strongly Disagree	5	4.7%
	Disagree	13	12.3%
	Neutral	40	37.7%
	Agree	36	34%
	Strongly Agree	12	11.3%
Searching with assistance from the chatbot saves time	Strongly Disagree	8	7.5%
	Disagree	13	12.3%
	Neutral	26	24.5%
	Agree	43	40.6%
	Strongly Agree	16	15.1%
That chatbots make website easy to use and effortless	Strongly Disagree	5	4.7%
	Disagree	11	10.4%
	Neutral	41	38.7%
	Agree	33	31.1%
	Strongly Agree	16	15.1%
The Chatbot provides customers with specific information.	Strongly Disagree	6	5.7%
	Disagree	15	14.2%
	Neutral	37	34.9%
	Agree	37	34.9%
	Strongly Agree	11	10.4%

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Factor	Opinion	No of Respondents	Percentage
The overall shopping experience with chatbots.	Significantly	20	18.9%
	Moderately	52	49.1%
	Slightly	28	26.4%
	Not At All	6	5.7%
The knowledge of the chatbot about the products\services	Very Knowledgeable	17	16%
	Knowledgeable	46	43.4%
	Neutral	32	30.2%
	Not Knowledgeable	6	5.7%
	Not At All Knowledgeable	5	4.7%
The recommend to use the chatbot for others	Strongly Disagree	5	4.7%
	Disagree	16	5.1%
	Neutral	40	37.7%
	Agree	36	34%
	Strongly Agree	9	8.5%
Chatbots understanding and responds to the needs	Very Well	19	17.9%
	Well	42	39.6%
	Neutral	33	31.1%
	Poorly	7	6.6%
	Very Poorly	5	4.1%
The personal feel of the customer	Strongly Disagree	8	7.5%
	Disagree	21	19.8%
on using chatbot	Neutral	30	28.3%
	Agree	39	36.8%
	Strongly Agree	8	7.5%
The security of personal information while interapting with chatbot	Very Concerned	12	11.3%
	Concerned	48	45.3%
	Neutral	32	30.2%
	Not Concerned	9	8.5%
	Not At All Concerned	5	4.7%
The concern about privacy and security while using chatbot	Yes	25	23.6%
	No	30	28.3%
	May Be	51	48.1%

Chi-square Test

To study the significant association between income and overall shopping experience of the respondents

NULL HYPOTHESIS (Ho):- There is no significant association between the annual income and overall shopping experience of the respondents.

ALTERNATE HYPOTHESIS (H1):- There is significant association between annual income and the overall shopping experience of the respondents.

The above table interprets that 0.460, the value is greater than 0.05. We accept null hypothesis. There is no significant relationship between annual income and overall shopping experience. Hence, null hypothesis is accepted and alternate hypothesis rejected.

Table No - 3 Showing the Relationship Between nnual Income and Over All Shopping Experience - Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Annual income * to what extend do you think chatbots enhance your overall shopping experience	106	100.0%	0	.0%	106	100.0%

	Value	DF	Asymp. Sig. (2- Sided)
Pearson Chi-Square	5.679a	6	.460
Likelihood Ratio	5.395	6	.494
Linear-by-Linear Association	.546	1	.460
N of Valid Cases	106		

Level of Significance	Degree of freedom	Calculated value	Table value
0.05%	6	.460	5.679

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ANOVA Test

To study the significant difference between designation and chatbots makes websites easy to use and effortless

NULL HYPOTHESIS (HO): - There is a significant difference between designation and chatbot makes website easy to use and effortless

ALTERNATE HYPOTHESIS (H1): - There is a significant difference between designation and chatbot makes website easy to use and effortless.

Table no – 4 showing the relationship between designation and chatbot makes the website easy to use and effortless.

Disagree	11	1.4545	.52223	.15746	1.1037	1.8054	1.00	2.00
Neutral	41	1.6341	.462274	.09726	1.4376	1.8307	1.00	3.00
Agree	33	1.5758	.61392	.10687	1.3581	1.7934	1.00	3.00
Strongly agree	16	1.6250	.71880	.17970	1.2420	2.0080	1.00	3.00
Total	106	1.5943	.61378	.05962	1.4761	1.7125	1.00	3.00

Test of Homogeneity of Variances			
Designation			
Levene Statistic	**Df1**	**Df2**	**Sig.**
.595	4	101	.667

ANOVA					
Designation					
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Between Groups	.307	4	.077	.197	.939
Within Groups	39.250	101	.389		
Total	29.557	105			

Descriptives								
Designation								
	N	**Mean**	**Std. Deviation**	**Std. Error**	**95% Confidence Interval for Mean**		**Minimum**	**Maximum**
					Lower Bound	**Upper Bound**		
Strongly disagree	5	1.6000	.54772	. 24495	.9199	2.2801	1.00	2.00

The table shows that significant value is found to be greater than 0.05. This shows that, there is no significant difference between designation and chatbot makes the website easy to use and effortless. Hence, null hypothesis is accepted and alternative hypothesis is rejected.

CONCLUSION

This research investigates how e-retail companies use chatbots to enhance user experience and improve customer satisfaction. Findings reveal that chatbot usability—driven by attributes such as responsiveness, personalization, accuracy, and reliability—significantly influences satisfaction levels. As chatbot adoption grows, ensuring ease of use and familiarizing users with its functions is essential. Companies should design intuitive chatbots that save time, provide clear information, and offer incentives like price discounts to enhance user engagement. These strategies not only improve online experiences but also foster loyalty. Continued focus on chatbot optimization will be key to staying competitive in the evolving e-commerce landscape.

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