

CUSTOMER SATISFACTION TOWARDS AI-BASED CHATBOT IN INDIAN BANKING SECTOR**Mrs.S.Vasundharadevi**Assistant Professor of Commerce, Rathinam College of Arts & Science (Autonomous) Coimbatore, Tamil Nadu,
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Coimbatore, Tamil Nadu, India - 641021**Ms.V.Pavithra**Assistant Professor of Commerce, Rathinam College of Arts & Science (Autonomous) Coimbatore, Tamil
Nadu, India - 641021**Abstract**

Artificial Intelligence (AI) based chatbot is computer software mainly designed to provide digital assistance to reproduce the human interactions using natural language processing through messaging applications. The bot interprets the user's intent, then processes their queries and provides prompt responses. The present study made an attempt to know the sources of awareness, Influential factor to adopt and Customer Satisfaction on AI-based Chatbot in Banking Sector. The study was based on primary data and the required data was collected from 87 respondents from Coimbatore city. The study includes Percentage Analysis and hypotheses were tested using Chi-Square analysis. The results of the study reveals that majority 90.80 percent of the respondents are aware about chatbot through online resources followed by 77.01 percent using social media platform. The most influential factor to adopt chatbot is to adopt new technology, Understanding of Users need and getting quick responses. The hypothesis results showed that there is a significant association between the Customer Satisfaction and Educational Qualification of AI-based Chabot users in banking sector & the Customer Satisfaction and Income Level of AI-based Chabot users in banking sector

Keywords: Artificial Intelligence, Chatbot, Customer Satisfaction, Banking users.**Introduction**

As the world is in the phase of technology revolution, digital transactions are increasing day by day, the expanding number of e-consumers and the fast-changing nature of industries force e-commerce to stand out by offering improved customer experience. Consequently, this has driven changes in the design and roles of various types of artificial intelligence technologies. Chatbot integration has become one of the fastest-growing implementations of artificial intelligence.

AI-based chatbot is expected to significantly alter the marketing strategies as well as the consumer behavior (Vu My Hanh and Lai et, al. 2022). The inclusion of Artificial Intelligence (AI) technology in customer care revolutionizes the whole process. AI chatbot are smart enough to deal with customers similar to customer care



agents and provide them ligiid solutions. As explained by Mero (2018), The AI chatbot is capable of creating a direct and serious impact on customer care. It provides a two-way communication facility that increases repurchases, loyalty, and satisfaction of customers. According to Gnewuch et al. (2018), the inclusions of AI chatbot have become an essential element for gaining customer satisfaction. Despite human-like interactions, there are cases of dissatisfaction that are above the acceptable level (Orlowski 2017). Banks are using artificial intelligence to manage record-level, high-speed data and gained useful insights. Additionally, technologies like digital payments, AI bots and biometric fraud detection systems contribute to high-quality services for a larger consumer base (Nalini and Radhakrishnan, 2022). The significant features of AI chatbot for customers includes Round-the-clock available, customers don't need to wait till the customer support agents are next available, Self-serving queries can save a lot of time and effort for customers in addition to businesses, Consistency, Personalization and Customization Real-time responses and Multilingual support. Chatbots in banking can aid consumers with activities like money transfers and account balance checks by guiding them through their actions using a conversational interface. Hence, the present study attempted to know the Customer Satisfaction towards AI-based Chatbot in Banking Sector.

Review of Literature

Adam et.al., 2021, live chat interfaces are becoming more and more popular as a way for many e-commerce businesses to provide real-time customer service. AI-based chatbots are used a more due to money saving and lower time consumption. However, they don't always seeclientprospects, which can make people less likely to do what the chatbot asks.

Mudofi&Yuspin, 2022, Technology is a big reason why the financial sector is more productive day by day. By including the use of AI one can work in the financial sector faster and more efficient. The banks are using AI by making a chatbot called VIRA. Even though this VIRA has a lot of benefits, it also has a drawback that the user can't access their account with a pin and the user requires their card number and OTP number.

Scope of the Study

The study was taken up to understand the awareness and the customer satisfaction towards AI-based Chatbot in Banking Sector. The study was carried out with reference to AI-based chatbot users (Banking Sector) in Coimbatore City. It will help to know the technological changes and the behaviours of the consumers towards banking transactions and enquiry.

Objectives of the Study

- To identify the most influential factor for the adoption of AI-based chatbot in banking sector.
- To find out the customer satisfaction on AI-based chatbot in banking sector

Hypothesis of the Study

H₀₁: There is significant relationship between the Customer Satisfaction and Educational Qualification of AI-based Chabot users in banking sector.

H02: There is significant relationship between the Customer Satisfaction and Income Level of AI-based Chabot users in banking sector.

Research Methodology

This examinelearning attempts to study the Customer Satisfaction towards AI-based Chatbot in Banking Sector. To achieve these objectives a suitable research methodology is adopted. In Coimbatore City, most of them are digital banking users and they are aware of various AI-based banking services, and its benefits. Hence, Coimbatore City was selected as the area of research study. A purposive sampling method was used to select the sample respondents. Accordingly, sample of 87 AI chatbot users in banking sector was selected. The research learningwas showed during April, 2023. The primary data was collected through questionnaire from the sample respondents about their demographic profile, sources of awareness, Influential factors to adopt and Customer Satisfaction on AI-based Chatbot in Banking Sector. The frame work of the methodology includes Percentage Analysis and Chi-Square analysis.

Table 1 Customer Satisfaction

Measures	Statements
User Satisfaction	I am Satisfied with Quality and amount of time consumed by AI
Speed of Response	I get the response on time
Understandability	I found it friendly and supportive
Accuracy	It is more useful than human chat
Service Quality	The chatbot provides me right solution for my problems
Reliability	I can easily understand the level of English that is used by AI
Societal Perception	The chatbot inclusion is ahead of its time for our Society

Source: Aziz Hafiz, Zaman Sohaib, Muzammil et, al. 2021.

Limitations of the study

- This Learning covers 87 banking users in Coimbatore City only due to time constraint

Analysis and Interpretation

The investigation of the learning is presented under the following sections. Socio-economic profile of the respondents Source of Awareness about chatbot Influential Factor to adopt of AI-based Chatbot in Banking Sector Customer Satisfaction towards AI-based chatbot users in banking sector

Socio economic profile of respondents

Table 2 Socio-economic profile of respondents

S.No	Particulars	Number	Percentage (%)
1	Gender Male	39	44.83
	Female	48	55.17
2	Age below 25	11	12.65
	25 – 30	32	36.78
	31 – 35	26	29.89
	above 35	18	20.68

3	Education Qualification		
	+ 2	09	10.35
	Under graduate	43	49.42
	Post graduate	12	13.79
	Professionals	11	12.65
	Others	12	13.79
4	Occupation		
	Business	11	12.65
	Salaried People	49	56.33
	Student	18	20.68
	Home maker	09	10.34
5	Annual family Income		
	Below 2 lakhs	07	08.04
	2 – 3 lakhs	34	10.35
	3 – 4 lakhs	29	33.33
	4 – 10 lakhs	09	39.08
	Above 10 lakhs	08	09.20

Source: Primary Data

It is inferred after the board that majority of the sample are women (55%) compared to men (45%). It is understood that majority (35%) of the sample are from the age group of 25 – 30 years. The majority (50%) of the AI chatbot users are under graduate. Only (10%) of them are +2.

This table reveals that salaried people (56%) are more interested to adopt chatbot for information and enquiry. The socio economic profile of the sample users shows that most (89%) of them are degree holders, (73%) are having annual income between Rs. 3 – 10 lakhs and many of them are salaried people, students and businessmen.

Source of Awareness about chatbot
Table 3 Source of Awareness about chatbot

Particulars	Number(n=87)	Percentage(%)
Friends and Colleagues	27	31.03
Print media	10	11.49
Social media	67	77.011
Online resources	79	90.80
Personal experience	54	62.06

Source: Primary Data

Table 3 shows the source of awareness about chatbot among the respondents. The majority 90.80 percent of the respondents are aware about chatbot through online resources followed by 77.01 percent using social media platform. Only 11.49 percent of the respondents are aware through print media and 31.03 percent through friends and colleagues.

Influential factor to adopt AI-based Chatbot in Banking Sector

Table 4 Influential factor to adopt AI-based Chatbot in Banking Sector

Particulars	Strongly Agree		Agree		Neutral		Disagree		Strongly Dis-agree	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
To explore new technology	68	78.16	08	9.19	09	10.34	09	10.34	-	-
Out of Curiosity	34	39.08	27	31.03	06	6.89	12	13.79	08	9.19
It is convenient	43	49.42	19	21.83	16	18.39	07	08.04	02	2.29
To get quick answer	52	59.77	21	24.13	14	16.09	-	-	-	-
It provides automatic responses when others are not available	24	27.58	42	48.27	-	-	18	20.68	03	3.44
To improve my conversational skills	14	16.09	15	17.24	05	05.74	39	44.82	14	16.09
It is easier to talk to a Chatbot than to talk to people about issues	58	66.66	09	10.34	10	11.49	10	11.49	-	-
Understanding of Users need	63	72.87	20	22.98	04	4.59	-	-	-	-
To obtain assistance or information	12	13.79	30	34.48	35	40.22	04	04.59	06	6.89
To test out their skills	14	16.09	21	24.13	19	21.83	15	17.24	18	20.68

Source : Primary Data

Table 4 shows that exploring new technology continues to be the common reason for adopting AI-based chatbot in banking sector. 72.87% strongly agree that understanding of users needs is the main reason for using chatbot followed by 66.66% easier to talk to a Chatbot than to talk to people about issues. 59.77 % of the respondents strongly agree that, AI chatbot will give quick answers to them and 42.22 respondents by convenience. 48.27% of the respondents agree that it provides automatic responses when others are not available, 34.48% of the respondents to obtain assistance or information and 24% agree to test out their skills. Only 16.09% of the respondents strongly agree that chatbot will improve their conversational skills.

IV. Customer Satisfaction towards AI-based chatbot users in banking sector

H₀₁ : There is significant association between the Client Satisfaction and Educational Qualification of AI-based Chabot users in banking sector.

Table 5 Customer Satisfaction and educational qualification of the AI-based Chabot Users in banking sector.

Particulars	Chi – Square Value	P-Value	Result
User Satisfaction	14.961	0.000	Significant
Speed of Response	46.259	0.000	Significant
Understandability	34.467	0.000	Significant

Accuracy	28.086	0.001	Significant
Service Quality	43.875	0.000	Significant
Reliability	18.023	0.040	Significant
Societal Perception	32.904	0.029	Significant

Source: Primary Data **Level of significance: 5%**

Table 5exposes that theclient satisfaction like user satisfaction, speed of response, understandability, accuracy, service worth and societal perception and education qualification of the AI-based chatbot usersare highly significant at 1 percent level. Reliability alone significant at 5 percent level. Hence Null Hypothesis (Ho) was rejected; Alternative Hypothesis (H1) was accepted. There is a significant association between Customer Satisfaction and educational qualification of the AI-based Chabot Users in banking sector.

H02 : There is significant association between the Customer Satisfaction and Income Level of AI-based Chabot users in banking sector.

Table 6 Customer Satisfaction and Income Level of the AI-based Chabot Users in banking sector.

Particulars	Chi – Square Value	P-Value	Result
User Satisfaction	27.058	0.000	Significant
Speed of Response	23.274	0.001	Significant
Understandability	29.004	0.000	Significant
Accuracy	18.904	0.089	In-Significant
Service Quality	38.470	0.047	Significant
Reliability	14.846	0.060	In-Significant
Societal Perception	46.736	0.005	Significant

Source : Primary Data **Level of significance :5%**

Table 6displays that the client satisfaction like user satisfaction, speed of response and understandability and income level of the AI-based chatbot users are highly significant at 1 percent level. Service quality and societal perception are significant at 5 percent level. Hence Null Hypothesis (Ho) was rejected; Alternative Hypothesis (H1) was accepted. There is a significant association between Customer Satisfaction and income level of the AI-based Chabot Users in banking sector. Accuracy and Reliability is not significant at 5 percent level. Hence Null Hypothesis (Ho) was accepted, Alternative Hypothesis (H1) was rejected. There is no significant association between Customer Satisfaction of accuracy and reliability, and income level of the AI-based Chabot Users in banking sector.

Suggestions

- Language Support can be improve for the usage of the lower educational level users.
- Create more awareness about the usage process through videos, images or message and share as more as possible.

Conclusion

The provision excellence and the response time is the major element that directly impacts the customer satisfaction. Every customer expect good response and immediate reply for their enquiry. Therefore an AI based chatbot were introduced to solve this problem. Artificial Intelligence (AI) can have on its online and mobile banking models, and has worked quickly to enhance their consumer interaction platforms.

Chatbots have become an important part of digital self-service. Chatbots helps the user's to access banking information and FAQs from any page on a bank's website and also offer personalized information by using customer data to provide automated recommendations to the users.

References

1. **Adam, Wessel and Benlian (2021)**. Simulated intelligence based Chat bots in Client Service and their Impacts on Client Consistence. *Electronic Business sectors*. Vol. 31(2). ISSN:1019-6781. 427-445.
2. **Aziz, Zaman and Muzammil et. al. (2021)**. The Impact of man-made intelligence Put together Chatbots with respect to Consumer loyalty. *Global Survey of The executives and Business Exploration*. Vol.10(4). ISSN: 2306-9007.
3. **Gnewuch, Morana, Adam and Maedche (2018)**. Quicker isn't Better all the time: Understanding the Impact of Dynamic Reaction Postpones in Human-Chatbot Collaboration.
4. **Hanh My Vu, Lai Hoang Va et. al. (2022)**. Investigating the Effect of man-made intelligence Chatbots on Consumer loyalty. *Worldwide Diary of Imaginative and Creative Exploration in all Reviews*. Vol.4 (12). ISSN: 2581-5334.
5. **Mero (2018)**. The Impacts of Two-Way Correspondence and Talk Administration Utilization on Customer Perspectives in the Web based business Retailing Area. *Electronic Business sectors*, 28(2), ISSN: 1019-6781. 205-217.
6. **Mudofi and Yuspin(2022)**. Evaluating Quality of Chatbots and Intelligent Conversational Agents of BCA (Vira) Line. *Interdisciplinary Social Studies*. Vol.2 (2). ISSN: 2808-5051. 532-542.
7. **Nalini and Radhakrishnan (2022)**. Client Mindfulness towards utilization of Chatbots in Financial Area. *Worldwide Diary of Inventive Exploration Considerations*. Vol.10 (12). ISSN: 2320-2882.
8. **Wang, I. M., and Shieh, C. J. (2006)**. The Connection between Administration Quality and Consumer loyalty: the case of CJCUC Library. *Diary of Data and Enhancement Sciences*. Vol.27 (1). ISSN: 2169-0103. 193–209.