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## The study of the awareness and satisfaction among consumers towards Chatbot technology for online purchases in Mumbai city

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### ABSTRACT

*This paper discusses about the Chatbot artificial intelligence interaction that has been adopted by most of the service sector in India. Initially Chatbot was considered as niche technology, but today Chatbot has been increasingly used in the main stream business. The retail sector also is using this technology to actively engage consumer 24/7. Chat bot enable retail business to provide superior customer service by driving customer engagement without human intervention. The objectives of the study was to understand the concept of Chatbot technology and its application in Indian retail companies. In order to understand the awareness and satisfaction level of customers using Chatbot for their retail queries the study has also focussed on primary data of 81 respondents who are using Chatbot to raise their queries and it was found that many of the respondents were aware of Chatbot technology and were satisfied with its usage. Therefore this research study is an attempt to understand the growing importance and adoption of Chatbot technology in India as a better customer interface.*

**KEYWORDS:** Chatbot, artificial intelligence, technology.

### 1. INTRODUCTION

The artificial intelligence Chatbot technology is the technology that encourages human interaction through voice commands. It is the artificial intelligence technology that help to do conversation with the help of messaging application. Through the chat bot technology the mobile user can get connected with the software giving them a feel of chatting with real person. It is described as most advanced form of expression between human and machines. It is a form of question answering system with the use of Natural language processing.

Chatbot has also increased saving with 80 percent of business implementing them. Big giants like Google, Facebook, Apple and Amazon are giving advances to small start-ups for evolving the innovation in Chatbot technology. Today Chatbot an perform many of

the function of the mobile app or website all within the messaging conversation. They have emerged over the period of time to include the features of payment, ordering and booking which otherwise would have done by human being. In India it arrived late but is getting quickly adopted in most of the service industry like banking sector, insurance sector, retail sector, travel sector etc. Today India has become key player in adoption of chatbot technology.

The India service sector market has been experiencing reputed companies adopting Chatbot technology. The obvious reason is the delightful experience of customer and better customer engagement. Engagement of technology through Chatbot provide the companies the tangible way to provide better service platform to digital customers.

For example SBI is using SIA for handing customer queries while HDFC bank is using EVA for meeting same needs enhancing great customer experience. While insurance industry has also adopted this technology to provide better customer platform like MetLife's provides Dr Jeevan as the Chatbot to educate the customers on critical illness while Bajaj Allianz's Boing help customer register their name and check the policy status, network hospitals. Retail brands like H&M, Taco Bell, Macy's are using Chatbot interface which includes answering queries and assisting customers in choosing the brand from e-commerce platform

Today there are more than 100 Chatbot start-ups in India. Enterprises and Small business will need to create their Chatbot so as to handle scale of respondents queries. Today even local players like Jio and Paytm are moving forward to incorporate their application with Chatbot. Today customers are looking forward to have better and quick connect with their dealers. In India chat bots will have to go beyond English and solve increasingly large and difficult issues that is related to health care, education, Sanitation.

## **2. OBJECTIVES OF THE STUDY**

- To understand the concept of Chatbot technology in India.
- To study the growth of Chatbot in various business sectors in India.
- To analyse customers awareness and satisfaction level in retail sector after use of chatbot interface.
- To identify the challenges faced in usage of Chatbot technology.

## **3. OUTLINE AND RESEARCH METHODS**

Data for the given research has been collected by using two methods of data collection. The secondary data has been collected by referring the news articles, published reports of KPMG, Deloitte and online research paper. Data has been referred and compiled in form of tables and figures so as to provide clear understanding about the development of Chatbot in India.

The current study also investigates the awareness and satisfaction of Chatbot technology. The study has been conducted in financial capital of India ie Mumbai city which is considered as the busiest destination where individual quickly adopted new technology for accessing the data for meeting their day to day needs.

The respondents in the study includes youngsters, middle aged consumers spread across Mumbai Metropolitan Region covering central suburbs and western suburbs and thane city and some respondents are from Kalyan city which is located in thane district. The study approached 101 respondents to understand their awareness level towards Chatbot technology. In the process of investigation it was observed that about 20 respondents were not aware about the term Chatbot and neither they have ever used that technology while the remaining 81 respondents could relate to the term Chatbot and had accepted their knowledge towards Chatbot technology. The analysis of data is based on the feedback of 80 respondents. The approach of the study is exploratory and descriptive and the sample size is the representative sample to investigate the awareness and satisfaction of using Chatbot technology. The researcher has collected the data from the respondents based on convenience sampling who are accessing Chatbot for solving their queries. The purpose of data collection was only to

understand the awareness and satisfaction among the respondents towards chat bot and understand the satisfaction and future of Chatbot technology in India.

The questionnaire that was constructed covered closed end questions ,demographic based question to know their background and for measuring their attitude and satisfaction level on the five point Likert scale measuring scale so that the researcher can get holistic view of respondents opinion and level of agreement towards Chatbot technology.

#### 4. REVIEW OF LITERATURE

**Singh and Singh (2019)** the authors in their study have focussed understanding the Chatbot application by different category of banking sector in India. The research paper highlights features and virtual assistance implemented by Indian banks. The study observed that Indian banks are aggressively adopted virtual platform to interact with their customers. The study also found low awareness among the India customers towards the usage of chat bot technology.

**Kiptonui (2013)** in the study on Chatbot technology have explored the possibility of implementing the learning environment with the usage of Chatbot. The study emphasized the that the Chatbot technology should be adopted and to be included in teaching learning environment where social interaction with students will play fundament role in cognition in the process of learning and student will also acquire the global knowledge and develop their skill and competency.

**Zumstein and Hundertmark (2017)** in their study on Chatbot- The interactive study for personal communication has explored the strength of Chatbot technology to reach their target audience. According to them as compared to man handled chat bot the latest Chatbot development are more remarkable to handle customer queries. The author conducted the two primary study where one study focussed on one hundred and thirty four in public sector transport and their general preference and habits of querying time table and buying tickets and the other survey was conducted with eighty four users who have experienced the Chatbot technology. The study concluded that Chatbot technology will perform better than travel advisor and will exceed standard services.

**Gupta and Sharma (2019)** investigates the attitude of the consumers towards Chatbot in Banking Industry of India. The study was conducted on 100 odd consumers out of which 72 people responded in which correlation analysis was used to understand the attitude of consumers toward acceptance and adoption of Chatbot technology in banking industry. The study concluded a positive correlation between the attitude and adoption of Chatbot and author made suggestion and recommendation for the implementation of Chatbots in the banking Industry.

After reviewing the above literature it was found that various literatures were available emphasising on technical studies of Chatbot like NLP, Computer Programming in Chatbot but there were very limited studies on the consumers behaviour and application of Chatbot technology in India. Some studies have covered public transport services while some researcher emphasised on use of Chatbot in banking system. Very limited literature is available on the consumer awareness and use of Chatbot in retail sector. After identifying the gap of limited literature availability on Indian consumers and their awareness toward Chatbot technology the present research paper will uncover the use of Chatbot and understand the customer awareness and satisfaction level after using Chatbot for their interaction. The study will contribute as additional knowledge for undertaking further research.

#### 5. MARKET FORCES DRIVING CHATBOT DEVELOPMENT

- **Pressure on contact centres:** There is tremendous load on corporate call centres. Most of the time the network is busy or they are not able to handle enough queries. Chatbot artificial technology interface speed up this process as the entire work is handled by the software which enable them to have quick data management.

- **More emphasis toward self service system:** Today consumers are increasingly preferring self-service platform as they do not want to waste time travelling physically and waiting for inquiry from the executive staff of the organisation. They are looking ahead for the quick mode through which they can save their time. The Chatbot technology is personal interface where the customer can interact in his own convenient time with waiting for longer hours.
- **Technological advancement in artificial advancement:** The technological advance through development in Natural language processing and machine learning has made every thing possible. Today google voice assistant equipment has made life easy as people don't want to waste time is typing as well. They find such artificial intelligence more reliable and convenient.
- **Status of Chatbot development in India:** Business Insider has predicted that by 2020 80% of the corporates will use Chatbot and by 2022 bank can automate up to 90 percent of their customer interaction through Chatbot. According to Adone 28 percent leading companies use AI Chatbots while 31 percent are planning to implement in next 12 month . Table I given below highlights the list of sector and leading brands in that sector those who have introduced chat bot technology in India.

Sectors	Companies
Banking and Insurance	Yes Bank, HDFC bank, Fund Tiger, Axis bank, Motilal Oswal
Travel	Yatra, Gohero.ai, ixibaba,
Entertainment	Gaana, Gig
E-Commerce and Shipping	Nike, Look up, H&M, Taco Bell
Education	Myprivate tutor
<b>Source:</b> <a href="https://gm360.in/list-leading-brands-using-Chatbots-india/">https://gm360.in/list-leading-brands-using-Chatbots-india/</a>	

Today India is competing with other countries to provide advance innovation in technology to the globe. These chat bots are developed by new breed of engineers. Table II highlights some of the Chatbot created in last few years.

Name of the Chatbot	Year	Created by	Used in
BotArtisanz (Software solution)	2015	Cadex technology founded by Kiran Krishnan, Mahroof.K	Hotels and Ecommerce sector
Bottr.me	2016	Abhimanyu godara, Mayank Agarwal m Arjun kumar, uday Krishnan	Used for Automating FAQ list and AMA sessions
Dheeyantra	2017	Banglore based start-up by sree kumar and vidhu Bennic Tholath	Corporates use this for repetitive administrative task. It aims to help businesses to reach out to the Indian native speaking community.
Vernacular.ai	2016	Sourabh Gupta, akshay Deshraj and manoj sarda	It is used by corporates to interact with their customers in multiple languages. It has the support of Facebook messenger and twitter.
Supertext.ai	2016	Avinash hedge and Mathew J padayatty	Bangalore based start-up Corporates use this for repetitive administrative task.
Source. Analyticsindiamag.com			

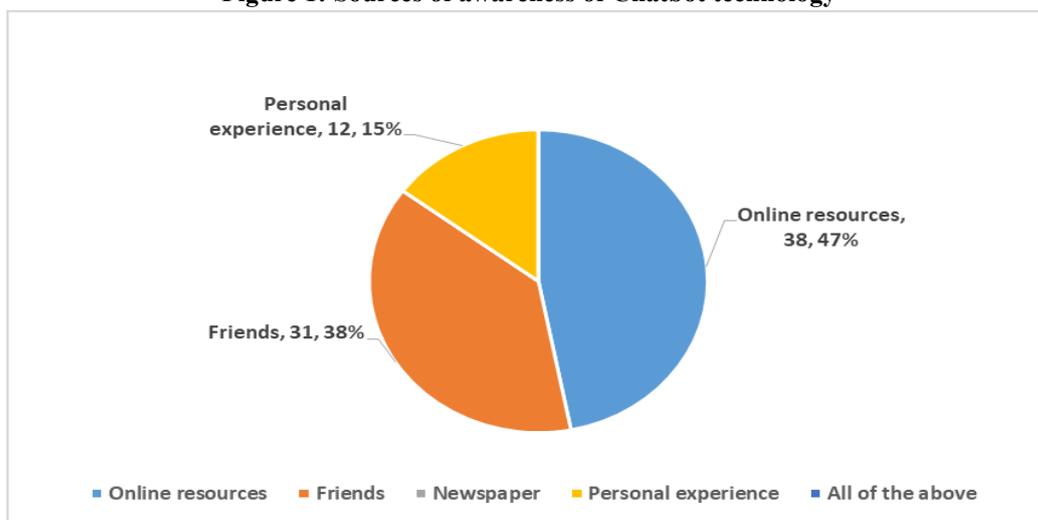
## 6. FINDINGS OF THE STUDY AND DATA ANALYSIS

Quantitative data analysis has been carried out where the outcome of individual respondents is depicted through percentage. The study aimed to understand three aspects other than demographic pattern of the respondents. According to the analysis it was found that out of 101 respondents only 80% (81) respondents were aware and have some knowledge of Chatbot technology while the rest 20 % had not used or heard about this concept of Chatbot technology so the researcher has focussed on feedback on the 81 respondents and

had attempted to present their views on Chatbot technology. The study found that out of 81 respondents 49 respondent were female respondents and the rest were the male respondents. Almost 48 % respondents were from 35 yrs. to 44 yrs. age group and 21 % were between 25yrs to 34 yrs. which indicates that Chatbot was more frequently used between age group 25 yrs. to 44 yrs. who are keen to adopt Chatbot technology.

While analysing the frequency of usage of the Chatbot it was found that 56 % respondents use Chatbot once in a month for solving their queries while 21% use Chatbot technology once in a week that indicates that frequency of using Chatbot technology is very less as still today many consumers prefer visiting the outlet to solve their queries. Figure 1 depicts the sources that creates awareness towards Chatbot technology and it was found that 47% respondents got the awareness through online resources. While 38 % of the respondents got the awareness from their friends while the rest has their personal experience of using Chatbot technology.

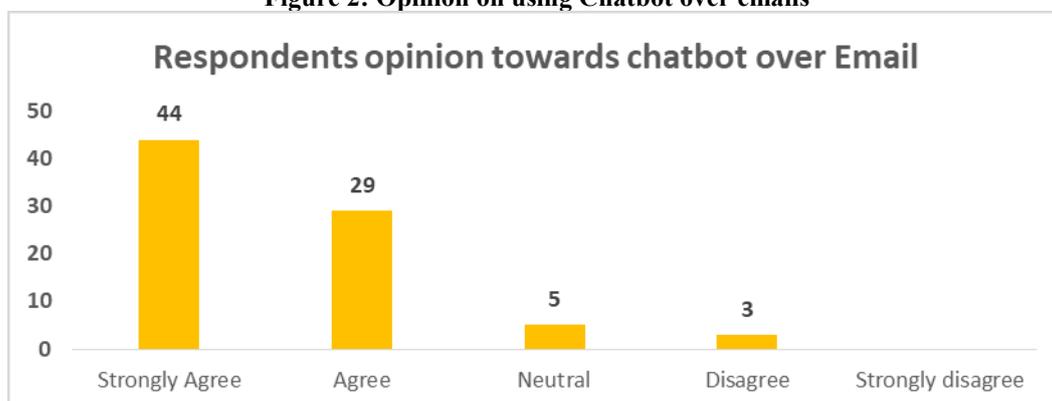
**Figure 1: Sources of awareness of Chatbot technology**



**Source:** Compiled from primary Sources

In earlier days consumers used to enquire through emails to get information from the companies but over the period of time with the advancement of artificial intelligence business have become more approachable and Chatbot has become easy option which is available 24/7 to the consumers. Figure 2 highlights the respondents opinion towards using Chatbot over emails and it was found that 44 respondents i.e. 54% strongly agreed on the easy use of chat bot technology which indicates consumer do not want to waste time and expect promptly reply on their queries .

**Figure 2: Opinion on using Chatbot over emails**



**Source:** Data compiled from primary survey.

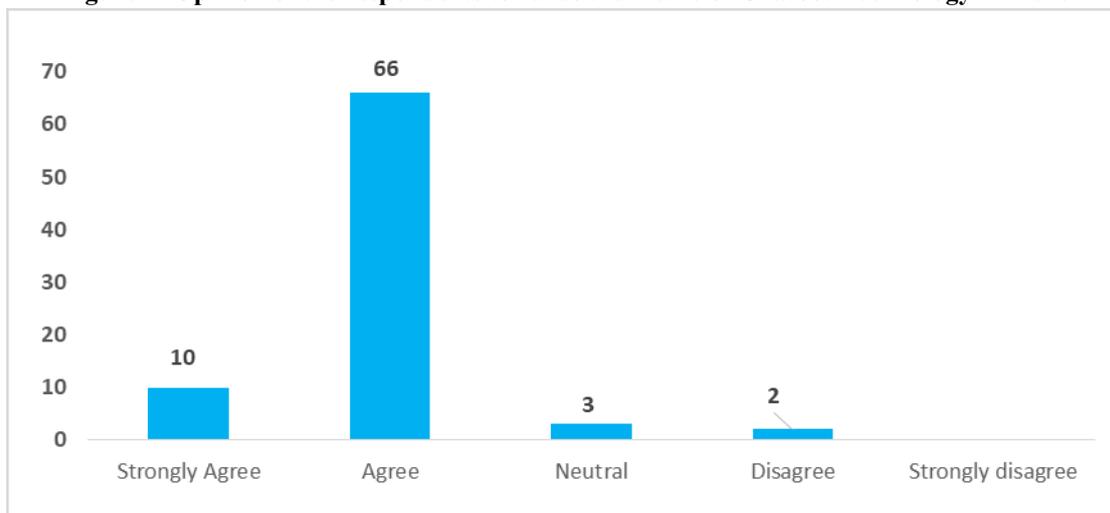
The study also identified various reason for using Chatbot and according to figure 3 it was found that almost 36 respondents(44%) had been using Chatbot for getting quick information on offers and discount and 21 respondents (25%) were curious to know about product features and rest of the respondent were either looking for pricing information or any other payment related queries .

**Figure 3: Reasons for Using Chatbot technology**



**Source:** Data compiled from primary survey.

**Figure 4: Opinion of the respondents towards the future of Chatbot Technology in India**



**Source:** Data compiled from primary survey

Figure 4 depicts respondents opinion towards future of Chatbot technology in India and it was found that 66 respondents (81%) agree that Chatbot technology has great future in India as more and more consumers are using smartphones ,the access to the Chatbot will be sharply increase in creating good future for Chatbot technology in India.

**7. DISCUSSION**

Today Chatbot has transformed immensely the approach of corporates towards communicating with their stake holders. Various research literature as discussed have also emphasized the growing importance of Chatbot that will change the future mode of communication with their customers. The research literature had also enunciated the customer service as the most important resource of any organisation as it play key role in generating revenue for the organisation.

The study indicates that today consumers expect prompt reply from retail organisation and they prefer to have customer engagement platform which is easy and convenient for the buyers. The study also highlights that retail companies need to update their online platform which were used earlier only for product purchase and payment but today customer are more attentive to get direct information from vendor or retailer as they prefer to get first hand information from their sellers which help them to take quick purchase decision. Therefore the study indicates that accessing online resource do help consumers to learn and adopt new technology. Therefore it is imperative to understand that Chatbot can be the great way to connect the augment reality and will definitely replace human personnel in the world of customer service. But when it is adopted with context to the country like India where there is multilinguistic culture and diverse population it is essential to rethink on such Chatbot artificial intelligence system that will incorporate the need of diverse culture of India by adopting regional language based Chatbot technology which can bring consumer closer to the organisation.

## 8. CHALLENGES OF CHATBOT TECHNOLOGY

It is often observed that assistance provided by Chatbot technology find it difficult to understand the users text as some times the text are too short or some time too long . so it become difficult for Chatbot to understand when to respond and what is users intention. Some user use slang language or use cool words or a mix of English and Hindi language. The current state of national language processing is not so advanced to tackle everything. With advance technology it will evolve and rise more. Human behaviour deal with multiple emotion sometimes happy and sometimes sad. One might feel different at different instances and it is not permanent. Mood is the big factor in the entire human behaviour. The user might want to tell the bot what to do and very next moment want to recommend. Human behaviour is so dynamic that the machine cannot understand effectively and analysis data based triggers. User attention span is limited and often user are very distracted. So it is only on how the Chatbot respond to the users message and where the it grabs user's attention . The more effectively it does more it attracts the users to use it again.

## 9. CONCLUSION

The usage of Chatbot has simplified the life of the providers and the user as both the parties are getting benefit out of it. The bots are still in the evolving phase in India and they will get better and better in future. There are different approaches and tools to develop Chatbots depend on the end use and what result we are expecting out of it. Today due to Chatbot organisation has cut their cost, improved customer satisfaction, increased sales and given growth which could not be otherwise possible without Chatbot. The rise of Chatbot is good and many Indian investors are looking ahead to invest in this technology.

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