

A Study on Chatbots and Virtual Assistants in Customer Engagement: A Review

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ABSTRACT

The use of chatbots and virtual assistants in customer engagement has gained significant attention in recent years. This paper presents a comprehensive review of the literature on this topic, aiming to provide insights into the impact of chatbots and virtual assistants on customer experience, satisfaction, and loyalty. The review encompasses various aspects, including the growth and prosperity of chatbots, their impact on customer service, and their integration into wireless services. Additionally, the study explores the role of chatbots in enhancing customer engagement in digital marketing and their influence on customer loyalty. The findings from this review contribute to a better understanding of the implications of chatbots and virtual assistants in customer engagement, providing valuable insights for businesses and researchers by understanding chatbots and virtual assistants in customer engagement.

Keywords-- Virtual Assistants, Chatbots, Customer Experience, Digital Marketing, Information Quality

I. INTRODUCTION

Chatbots and virtual assistants have become integral components of customer engagement strategies in the digital era. Their ability to provide instantaneous responses, 24/7 availability, and personalized interactions led to their widespread adoption across various industries. This prompted a growing body of research focused on understanding the impact of chatbots and virtual assistants on customer experience, satisfaction, and loyalty. In this context, this paper aimed to conduct a systematic review of the literature to gain a comprehensive understanding of the role of chatbots and virtual assistants in customer engagement. The review encompassed various dimensions, including their impact on customer service, wireless services, and digital marketing, as well as their influence on customer loyalty. By synthesizing the existing research, this review sought to provide valuable insights for businesses looking to leverage chatbots and virtual

assistants to enhance customer engagement and build long-term customer relationships.

II. EXPLORING THE EVOLVING LANDSCAPE OF CHATBOTS

Alfredo Daza (2023) discussed the growth and prosperity of chatbots in the coming years, as well as their impact on customer satisfaction and the environment. The study indicated a significant increase in the number of researchers focusing on this topic, reflecting the growing importance of chatbots in customer engagement. Samira Raki (2022) emphasized the importance of virtual assistants' customization in enhancing the customer experience. The role of virtual assistants in customizing customer interactions was highlighted to improve overall customer experience. Silvia Malatini (2017) explored the integration of virtual assistants and chatbots in elevating customer support for wireless services. This highlighted the expanding role of virtual assistants and chatbots in enhancing customer support across different industries. Creative Marketing Ltd. (2023) delved into how chatbots and AI assistants enhanced customer engagement in digital marketing. It provided practical tips for deploying chatbot technology to improve customer interactions and engagement. A systematic literature review published by Liss Jenneboer (2022) provided insights into the influence of chatbots on customer loyalty. The study emphasized the importance of system quality, service quality, and information quality in shaping customer loyalty in the context of chatbot interactions.

III. FACTORS THAT LEAD TO POSITIVE CUSTOMER ENGAGEMENT

As the many uses have been discussed above in several industries, with that as a basis, the qualities that make consumers happy while engaging with chatbots have been explored below.

a. Resolving Problems

Chatbots can address problems and concerns instantly. They also patiently answer repeated questions. Customers are pleased that their concerns are resolved quickly and with minimal complication. Robert Jordan (2019). Emotional inquiries must be detected by Chatbots' capacity to distinguish between emotional and informative queries. The majority of emotional questions are difficulties experienced by consumers, and if they are resolved immediately, customers have a positive attitude towards the company. Anbang Zu et al. (2018). According to Shane Barker (2019), users choose messaging apps for help over calling customer care because they want speedy resolutions. It is also reported that around 65% of millennials, Generation X, and Baby Boomers favour messages.

b. Personalisation

Chatbots can identify gaps in the dialogues with customers and can fill the gap by identifying a pattern. Resolves the issue specific to the customer, thus providing a personalized experience to the Customer says Robert Jordan (2019) The company Fujitsu uses Chat-bot technology called "CHORDSHIP" to improve customer engagement where the Chat-bot can give automatic accurate answers to queries using already stored dictionary. (Yoichi Kuraichi 2018). This has been discussed as "Empathy" by Anbang Zu et al (2018), where personalized responses are given by giving importance to the customer, and the customer feels valued.

c. Availability

Chatbots are available 24x7 and anytime anywhere customers can have access to them provided they are connected to the internet. Customers always want a response immediately whenever they have a query, Chatbots help in effective contact with Customers claims Joe McKendrick (2018). This factor can also be considered as a convenience. Fran Conejos (2020) states that customers dislike being on hold in a call and though the whole process of Chat-bot interaction may be a bit slow they prefer chat-bots since the uncertainty is avoided. Chatbots identify the priority, send the queries to the right place, push the queries up in the queue, and schedule calls to ensure this. Customer care executives will rest during night hours whereas Chatbots do not need that.

d. Enjoyment

Majority of the Customers like to have a pleasant experience. They like to enjoy their chats with the Chatbots. These hedonistic customers will have positive engagement when the chatbots provide an enjoyable experience. Joe McKendrick(2018). Directing Customers to the product page guiding them to see product images and prompting them to play videos makes the customer experience exhilarating says David Cancel (2020). Videos, music, and colours appeal to customers and that relaxes

them and makes them glad. „Data Quest India magazine“ (2019) states that Chat-Bots also use Augmented and virtual reality to give an enjoyable experience to the customers. The beauty products when purchased online cannot be tried out. Chatbots fill this gap for customers who are far away.

e. Transparency

Transparency is yet another important factor since customers would like to understand the process first of all. Then they would like to know how the information collected from them is being used. The communication should happen in a manner in which it develops trust. Customers are content when they know that the information will not be misused. A sense of security and safety should be established to satisfy the customer. Joe McKendrick (2018) This has been mentioned as credibility by Minjee Chung et al (2018) meaning honest communication that pacifies customers.

f. Helpful

The interaction with Chatbots should be useful with proper information. The queries regarding information have to be answered appropriately. If the customers are satisfied with the information, they get from the Chatbot, it results in positive engagement. Information regarding products, websites, locations, etc will be helpful to customers and avoid despair. Anbang Zu et al (2018) When the product inventory is too large, the customers just have to type the product name and Chat-bots can help take you straight to the destination of product availability states Himanshu Rauthan (2019)

g. Human First

Chatbots hybridized with a human touch would serve this purpose. Customers still need live chats to be more confident in their interactions. This hybrid technology has been developed by Fujitsu company called "CHORDSHIP" and is capable of switching over to live operators when the situation is beyond the scope of automatic Chatbots. (Yoichi Kuraichi 2018)

h. Accuracy

This factor has been measured under communication quality by Minjee Chung et al (2018). Here the researchers state that the chat-bots should be able to listen to their queries, find out what their problem is accurately, and give relevant precise information. The completeness and appropriateness of the communication are essential to retain a customer.

i. Trendy

Minjee Chung et al (2018) have discussed trendiness as a factor of customer satisfaction in Chatbot conversations. This goes to explain further that customers would like to get information about new products or brands. Since they like to stay updated and trendy in society. It is quite natural for customers to feel that they should not be left behind in discussions when it is about a

new product or a new brand. They feel that they should know everything first-hand. Interacting with chat-bots itself is a novelty, which they would like to share with their friends if their experience was good.

Thus, the major factors that lead to positive Customer Engagement as a result of a satisfactory

interaction with chat-bots have been arrived at. Resolving Problems and Availability are two factors identified in this study that have not been researched earlier. The conceptual model was modified to include the factors leading to Customer Engagement valence which is based on the reviews and discussions above.

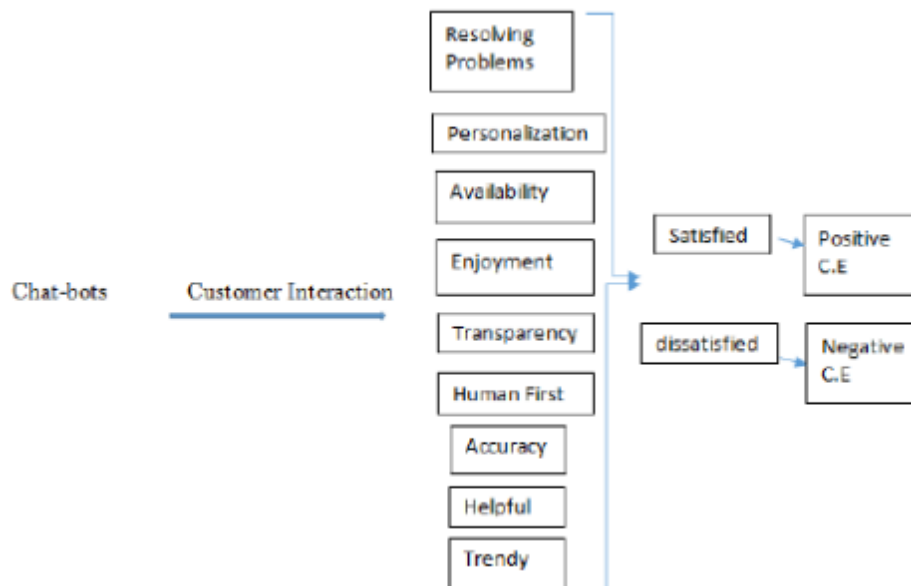


Figure 1: Modified Conceptual Model

IV. INSIGHTS ON CHATBOTS AND VIRTUAL ASSISTANTS IN CUSTOMER ENGAGEMENT

The insights from Sangroya (2017) highlight the potential of chatbots and virtual assistants to enhance customer engagement through their 24/7 availability, cost-effectiveness, and scalability. However, the disadvantages, such as scripted interactions, privacy concerns, and the lack of human touch, underscore the importance of deploying these technologies properly to address customer preferences and privacy considerations. When leveraged effectively, chatbots and virtual assistants can significantly improve customer service, operational efficiency, and accessibility, but businesses must carefully consider customer preferences and privacy to ensure successful deployment and customer satisfaction.

V. UNDERSTANDING CHAT BOTS AND THEIR CURRENT APPLICATIONS

In 2018, chatbot technology became increasingly popular in the field of digital marketing. According to Novoseltseva (2018), within the past five years, there has been a 19-fold rise in related searches on Google Trends

due to the growing interest in chatbots. In addition, according to Raffath (2018), 80% of businesses either use chatbots now or have plans to do so by 2020. This suggests that chatbots will play a significant role in AI marketing on digital platforms both now and in the future. The purpose of this thesis is to conduct an impartial analysis of the present state of chatbot applications to determine ways to capitalise on the technology for improved user experience and customer engagement. Benefits must be fairly evaluated from the perspectives of both businesses and each of their customers.

VI. COMMON CHALLENGES IN DEPLOYING CHATBOTS AND VIRTUAL ASSISTANTS IN CUSTOMER ENGAGEMENT INCLUDE

Despite the considerable growth in chatbot technology, the application of chatbots in the marketing industry still has many challenges such as: (M. Michael,1994) Understanding user emotions and sentiments, user problems must be identified from voice and breaking them into meaningful intent and responding with appropriate voice reciprocating the right emotions, it involves training the chatbot with real human voice so that they can respond in right tone and right pitch. (N.

Bayerque, 2016) Security of chatbot, while planning the chatbots it must be guaranteed that only pertinent information must be asked, stored, and transmitted safely over the web. (D. Withey, 2017) Designing a vernacular chatbot, and making chatbots polyglot requires more human translators instead of machines, vernacular chatbots require a common standard language that is still not available. (Anurag, 2018) Viability of information in chatbots, it is very important for a chatbot to advance with important information, yet in addition be prepared to convey the brand personality to the intended interest group. (E. Ojapuska, 2019) Integrating chatbots with the context, building, developing, and maintaining the memory of bots that offer personalized responses is a big challenge for companies. (M. S. Gurwani, 2018).

VII. ADVANTAGES OF CHATBOTS AND VIRTUAL ASSISTANTS IN CUSTOMER ENGAGEMENT

Chatbots and virtual assistants provide instantaneous responses and support around the clock, enhancing customer service and accessibility. These technologies were cost-efficient, as they could handle a large volume of inquiries and tasks without breaks, reducing operational costs. Chatbots were capable of handling a large volume of inquiries, making them scalable for businesses with varying customer service needs. Designed to deliver quick, consistent, and cost-effective responses to common customer inquiries, chatbots improved operational efficiency. When properly deployed, chatbots and virtual assistants leverage customer data to deliver personalized content and proactive engagements, enhancing the customer experience (Jignesh Joshi, 2023).

VIII. CONCLUSION

In conclusion, exploring the evolving landscape on chatbots and virtual assistants in customer engagement has provided valuable insights into the evolving role of these technologies. The findings underscore the dynamic and transformative nature of chatbots and virtual assistants, emphasizing their potential to enhance customer experiences, improve customer loyalty, and drive innovation in customer service practices. The increasing momentum of research contributions in this area reflects a rising interest in the applications and implications of these technologies across different industries. The study also highlights the importance of customization and continual assessment in optimizing the performance of chatbots and virtual assistants. Overall, this review contributes to the existing literature by offering a comprehensive analysis of the evolving landscape of chatbots and virtual assistants in

customer engagement, providing a foundation for future research and practice in this domain.

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