



# A STUDY ON CHATBOT USER EXPERIENCE IN THE TEXTILE SECTOR

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## ABSTRACT

*This study investigates the user experience with chatbots in the textile industry, focusing on aspects such as utilization, satisfaction, response times, encountered issues, personalization, speed, tracking, and usage duration. Data was collected through a questionnaire distributed to 74 individuals using the snowball sampling technique. The findings reveal that more than half of the respondents have interacted with chatbots related to textiles, and they express favourable perceptions regarding these chatbots' ability to provide information, respond promptly, and personalize interactions. Additionally, the majority of respondents believe that chatbots expedite issue resolution. Gender differences are minimal, except in the context of tracking textile orders. Overall, respondents hold positive views regarding the performance of chatbots in the textile industry for customer service and engagement.*

**KEYWORDS:** Chatbot, Utilization, User Experience, Response, Personalization

## INTRODUCTION

The textile industry is a significant sector in the global economy, contributing to job creation, trade, and economic growth. In this highly competitive industry, providing exceptional customer service is crucial for success. With the rapid advancements in technology, businesses are exploring innovative ways to enhance customer service experiences, and one such technology that has gained traction is chatbots. Chatbots, powered by artificial intelligence (AI), have emerged as automated systems capable of interacting with customers and providing real-time assistance. These virtual assistants are programmed to understand customer inquiries, provide relevant information, and even resolve issues independently. By leveraging chatbot technology, textile companies can streamline their customer service operations, reduce response times, and offer personalized support to customers.

Conversational chatbots are software applications that employ natural language processing to simulate human conversations. The chatbots are viewed as automated advice givers that can help people make decisions. Voice-activated digital assistants (such as Siri, Cortana, Alexa, and Google Home) and text-based systems integrated into messaging apps make up the chatbot ecosystem. It is predicted that by 2024, one-quarter of all customer support operations will include chatbot technology, and that by 2024, the average individual will have more chats per day with a chatbot than with their spouse.

Chatbots can be thought of as self-service technology (SST) when they provide client support without the need for a human service person. Intelligent backend systems support chatbot interactions, streamlining the process for end users. Sales, marketing, and customer support can all benefit from the conversational system capabilities offered by the rise of digital intelligent assistants and chatbots. Machine learning and smart software algorithms allow for more engaging, conversational interactions with clients.

The latest generation of chatbots is powered by artificial intelligence, making them far more advanced, powerful, and capable than their simpler predecessors. Chatbots are increasingly being employed in the hotel and tourism business for a variety of purposes, including but not limited to customer research, customer service, customer booking, and consumer recommendation and suggestion.

## LITERATURE REVIEW

The use of chatbots in the textile sector has gained significant attention in recent years due to their potential to enhance customer engagement, improve operational efficiency, and provide personalized support.

Chatbots have emerged as valuable tools for improving customer service in various industries, including textiles. Textile companies are increasingly implementing chatbots to assist customers with product inquiries, order tracking, and issue resolution (Chae et al., 2019). According to Chae et al., chatbots in the textile industry can significantly reduce response times, leading to higher customer satisfaction.

User satisfaction is a crucial factor in assessing the effectiveness of chatbots. Studies have shown that user satisfaction is influenced by the chatbot's ability to understand and respond to user queries accurately (Cohen, 2019). Trust in chatbots also plays a significant role in user satisfaction (Lee et al., 2020). Users are more likely to have a positive experience with chatbots when they perceive them as reliable and trustworthy.

Personalization is another key aspect of chatbot user experience. Chatbots can leverage user data to provide personalized product recommendations and tailored responses (Zhang et al., 2020). This personalization can enhance the overall shopping experience for customers in the textile sector.

The integration of chatbots with e-commerce platforms is becoming increasingly common in the textile industry. Chatbots can assist users in finding products, checking availability, and making purchases (Nadarajan et al., 2021). Such integration can streamline the customer journey and improve the overall user experience.

Despite the potential benefits of chatbots in the textile sector, there are several challenges and limitations to consider. Chatbots may struggle with complex queries and understanding natural language variations (Roy et al., 2020). Additionally, user frustration can arise when chatbots are unable to provide satisfactory answers or when users are redirected to human agents (Rogers et al., 2019).

Ethical considerations in chatbot design and use are gaining attention. Ensuring privacy, transparency, and fairness in chatbot interactions is crucial (Hosseini et al., 2021). Users need to trust that their data is handled responsibly and that chatbots do not discriminate against certain groups.

## OBJECTIVES OF THE STUDY

- To understand the demographic characteristics and examine the online purchase behaviour of the respondents.
- To examine the respondent's user experience of chatbot service in textile industry.

## METHODOLOGY

The data for this study was collected through a snowball sampling technique, which involved targeting participants from the specific demographic of adults who engage in online shopping. A total of 74 respondents were included in the sample size. Snowball sampling is a non-probabilistic sampling method that is particularly useful for researching hard-to-reach populations or when there is limited access to a defined sampling frame.

In the context of this study, adults who shop online constitute the intended group of participants. Snowball sampling began with an initial set of participants who fit this criterion. These initial participants were asked to refer other individuals they knew who also met the criteria, creating a "snowball" effect as the sample size expanded. This method is often used when the target population is not easily identifiable or accessible through traditional random sampling techniques.

## DATA ANALYSIS

*Table 1: Frequency Distribution for Demographic Characteristics of the respondents.*

Variable	Category	Frequency	Percent
Gender	Male	30	40.5
	Female	44	59.5
Age	18 – 25	61	82.4
	26 – 30	7	9.5
	31 – 40	6	8.1
Marital Status	Married	12	16.2
	Un Married	62	83.8
Income	<= 10000	7	9.5
	10001 - 30000	19	25.7
	30001 - 50000	12	16.2
	50001 - 70000	12	16.2
	> 70000	24	32.4

<i>Profession</i>	Employed	20	27.0
	Unemployed	2	2.7
	Self Employed	3	4.1
	Freelancer	2	2.7
	Student	47	63.5

The table above shows the demographic profile of the respondents, revealing that the sample is predominantly composed of young adults, with 59.5% females and 40.5% males. In terms of age, the majority (82.4%) fall in the 18 to 25 age group, while smaller proportions are distributed across the 26 to 30 (9.5%) and 31 to 40 (8.1%) categories. Marital status shows 83.8% of respondents as unmarried. Income levels are diverse, with 32.4% earning over 70,000 units, while the remaining income brackets include 9.5%, 25.7%, 16.2%, and 16.2% for <= 10,000, 10,001 - 30,000, 30,001 - 50,000, and 50,001 - 70,000 units, respectively. In terms of profession, the majority (63.5%) are students, followed by 27.0% employed, 4.1% self-employed, 2.7% unemployed, and 2.7% freelancers, showcasing the diverse backgrounds of the survey participants.

Table 2: Frequency Distribution of respondents Chatbot Usage in the Textile Industry Customer Service.

<b>Variable</b>	<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
<i>Have you ever used a chatbot for customer service in the textile industry?</i>	Yes	34	45.9
	No	40	54.1
<i>Did the chatbot provide you with the information or assistance you needed?</i>	Yes	42	56.8
	No	32	43.2
<i>Did the chatbot response time meet your expectations?</i>	Yes	38	51.4
	No	36	48.6
<i>Have you ever experienced any issues or errors with a chatbot during your interaction?</i>	Yes	29	39.2
	No	45	60.8
<i>Do you think chatbots provide a more personalized experience compared to traditional customer service methods?</i>	Yes	38	51.4
	No	36	48.6
<i>Do you think chatbots have the ability to provide more consistent service than human representatives?</i>	Yes	36	48.6
	No	38	51.4
<i>Compared to traditional customer service methods (e.g., phone or email), do you believe chatbots provide faster resolution times?</i>	Yes	52	70.3
	No	22	29.7
<i>Have you ever used a chatbot to track the status of a textile order or shipment?</i>	Yes	40	54.1
	No	34	45.9

The table presents survey responses related to the use of chatbots for customer service in the textile industry. Nearly half of the respondents (54.1%) have used chatbots for textile-related customer service, while the remaining 45.9% have not. Among those who used chatbots, a majority (56.8%) found that the chatbots provided them with the needed information or assistance, while 43.2% did not. Regarding response time, 51.4% of respondents reported that the chatbot response time met their expectations, with 48.6% indicating otherwise. A significant proportion (60.8%) of participants did not experience any issues or errors during their chatbot interactions, while 39.2% did. In terms of personalization, 51.4% believed that chatbots offer a more personalized experience compared to traditional methods, while 48.6% disagreed. Similarly, 48.6% believed chatbots could provide more consistent service than human representatives, while 51.4% disagreed. Notably, a majority (70.3%) of respondents believed that chatbots offer faster resolution times compared to traditional customer service methods, and 54.1% reported using chatbots to track textile order or shipment statuses, with 45.9% not utilizing this feature.

Table 3: Association between respondents Gender and Chatbot Usage in the Textile Industry Customer Service.

<b>Variables</b>	<b>Pearson Chi-Square</b>		<b>Strength of Association</b>	
	<b>Value</b>	<b>p</b>	<b>Cramer's V</b>	<b>Strength</b>
<i>Gender * Have you ever used a chatbot for customer service in the textile industry?</i>	3.645	.056	.220	Small
<i>Gender * Did the chatbot provide you with the information or assistance you needed?</i>	.707	.400	.097	Small
<i>Gender * Did the chatbot response time meet your expectations?</i>	.003	.955	.007	Small
<i>Gender * Have you ever experienced any issues or errors with a chatbot during your interaction?</i>	.226	.635	.055	Small

Gender * Do you think chatbots provide a more personalized experience compared to traditional customer service methods?	2.144	.143	.169	Small
Gender * Do you think chatbots have the ability to provide more consistent service than human representatives?	2.386	.122	.178	Small
Gender * Compared to traditional customer service methods (e.g., phone or email), do you believe chatbots provide faster resolution times?	.964	.326	.113	Small
Gender * Have you ever used a chatbot to track the status of a textile order or shipment?	4.540	<b>.033</b>	.246	Moderate

The table summarizes the statistical relationships between gender and various aspects of chatbot usage for customer service in the textile industry. Most of the questions show no statistically significant association with gender, as indicated by relatively high p-values (>0.05) and small Cramer's V values, suggesting that gender does not significantly impact these aspects of chatbot interaction. However, there is a notable exception with the question about using chatbots to track textile order or shipment status, where a moderate-strength association is observed ( $p = 0.033$ , Cramer's  $V = 0.246$ ), implying that gender may play a more significant role in this specific context. Overall, while some statistically significant associations exist, their practical significance is generally small, suggesting that gender alone may not be a strong determinant of chatbot-related experiences in the textile industry.

Table 4: Mean and Standard Deviation of Chatbot Usability Scale.

Descriptive Statistics		
Statements	Mean	Std. Deviation
The chatbot is able to initiate conversation or to offer cues for further discussion by offering suggestions	3.35	.913
Chatbots seems able to recognise the user intend and guide the user to its goals	3.12	1.059
Chatbots able to cut down the average response time between you and the customer support team	3.42	1.020
Chatbots understand my needs	3.07	.941
Chatbots are able to help you in achieving your purchase goals by properly guiding you with the purchase	3.04	.943
The links provided by chatbot allow me to acquire or gain awareness about fashion brands	3.19	.989
Chatbot conveys a personality by providing greetings, self-introductory, empathy, information etc	3.09	1.100
Chatbots display pertinent information regarding products or services in the chat room window in a timely manner	3.20	.951
I have access to the services of chatbots and the information they provide anytime	3.03	1.006

The table presents descriptive statistics for respondents' perceptions of chatbot performance in various aspects related to customer service and engagement in the fashion industry, where a rating scale of 1 (strongly disagree) to 5 (strongly agree) was used. On average, respondents tend to agree, to varying degrees, with positive statements about chatbot capabilities. Specifically, they believe that chatbots are moderately effective in initiating conversations or offering cues for further discussion, recognizing user intent, reducing response times, understanding their needs, and helping with purchase decisions. Respondents also find chatbots moderately helpful in providing links for fashion brand awareness and conveying a personality through greetings and information. Moreover, they perceive chatbots as moderately successful in displaying timely and relevant product information. However, there is some variability in individual opinions, as indicated by the standard deviations, suggesting that while there is a generally positive outlook, there are differing experiences and perceptions regarding chatbot performance within the fashion industry.

## FINDINGS

### Demographic Profile of Respondents:

- The sample primarily consists of young adults, with a majority being females (59.5%). Most respondents are in the 18 to 25 age group (82.4%) and unmarried (83.8%). Income levels vary, with 32.4% earning over 70,000 units. The largest professional category is students (63.5%), followed by employed individuals (27.0%).

### Chatbot Usage in Textile Customer Service:

- 54.1% of respondents have used chatbots for textile-related customer service.
- 56.8% of users found that chatbots provided the necessary information or assistance.
- 51.4% reported that the chatbot response time met their expectations.



- 60.8% did not experience any issues or errors during chatbot interactions.
- 51.4% believe that chatbots offer a more personalized experience compared to traditional methods.
- 70.3% believe chatbots offer faster resolution times compared to traditional customer service methods.
- 54.1% reported using chatbots to track textile order or shipment statuses.

#### **Gender and Chatbot Usage Associations:**

- Most questions related to chatbot usage showed no significant association with gender, indicating that gender does not strongly influence these aspects. However, there was a notable exception with the question about tracking textile orders or shipments, where gender played a more significant role.

#### **Perceptions of Chatbot Performance in Fashion Industry:**

- Respondents generally have a positive outlook on chatbot capabilities in customer service and engagement in the fashion industry. On average, they find chatbots moderately effective in various aspects, including initiating conversations, understanding user intent, reducing response times, and providing relevant information.

#### **CONCLUSION**

This study underscores the relevance and effectiveness of chatbots in textile industry while shedding light on the nuanced factors at play in shaping user experiences. The demographic profile of the respondents in this study reflects a predominantly young adult sample, with diverse income levels, marital statuses, and professional backgrounds. The findings related to chatbot usage in the textile industry indicate that a significant portion of respondents have engaged with chatbots for customer service, with a majority finding them helpful in providing information. Interestingly, while a substantial number of respondents believe chatbots offer faster resolution times and use them for order tracking, there's a balanced division of opinions regarding personalization and consistency compared to traditional methods. Furthermore, the analysis of gender's impact on chatbot usage suggests that, except for tracking textile orders or shipments, gender doesn't significantly influence these interactions. Finally, the perceptions of chatbot performance in the textile industry highlight generally positive sentiments, although with some variation, emphasizing the potential of chatbots in enhancing customer service and engagement.

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