

THE ROLE OF AI CHATBOTS AND VIRTUAL SHOPPING ASSISTANTS IN SHAPING FESTIVE SEASON PURCHASE DECISIONS

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DOI: <https://www.doi.org/10.34293/eduspectra.v7i1.07>

Abstract

Artificial Intelligence (AI) is transforming the retail industry, with virtual shopping assistants and chatbots enhancing online shopping through personalized recommendations, real-time support, and seamless navigation. As digital retail becomes essential for customer engagement, especially during festive seasons, AI tools play a significant role in creating convenient, tailored shopping experiences. Despite the growing role of AI in retail, limited research exists on its impact on consumer trust, satisfaction, and purchasing decisions during major shopping events like festivals. Given that festivals are some of the largest shopping events, understanding the role of AI in influencing consumer behaviour is essential for businesses aiming to boost engagement and drive sales.

In recent times, companies predominantly focus on youngsters, considering their tech-savvy nature and active engagement with AI-driven platforms, that plays a vital role in festive season purchasing decisions. Therefore, the present study aims at examining the impact of AI-driven interactions on satisfaction, trust, and purchase intentions during festivals among students between the age group of 17 - 23 years of arts and science colleges in Madurai. It is proposed to collect primary data using convenient sampling method using Google form. The collected data will be analysed using Microsoft Excel, Percentage Analysis, and Garret Ranking and provide suggestions for the companies to strengthen customer engagement and loyalty by offering insights into effective AI integration, enabling a more personalized, efficient, and satisfying shopping experience for customers.

Keywords: *Artificial Intelligence, Chatbots, Customer Engagement, Purchase Intentions, Virtual Shopping Assistants.*

Introduction

The shift to online shopping, accelerated by the COVID-19 pandemic, has highlighted the role of AI chatbots and virtual assistants, especially during major festive seasons like Diwali, Christmas, New Year, and Pongal in India. These digital tools not only provide convenience but also engage users with culturally sensitive experiences tailored to traditional customs. With advances in natural language processing (NLP) and machine learning, consumer expectations for seamless, intelligent shopping assistance have grown. This study explores how AI chatbots and virtual assistants influence festive season purchases and their role in modernizing the shopping experience.

Statement of the Problem

As digital retail continues to grow, especially during significant shopping events like festivals, understanding the factors that influence consumer purchasing decisions has become crucial. Despite the increasing use of AI chatbots and virtual shopping assistants, there is limited research on how these technologies affect consumer trust, satisfaction, and purchase intentions within the context of festive shopping. This gap presents a challenge for brands aiming to effectively engage with consumers and optimize their marketing strategies. Furthermore, as consumers become more accustomed to AI-driven interactions, the implications of these tools on traditional shopping behaviors remain unclear. Therefore, this study seeks to explore the role of AI chatbots and virtual shopping assistants in shaping consumer behavior during the festive season, providing insights into how these technologies can improve the shopping experience and impact purchasing decisions.

Scope of the Study

This study examines how AI-driven chatbots and virtual shopping assistants affect consumer purchasing decisions during the festive season. It focuses on how these tools enhance customer engagement, influence buying behavior, and impact user satisfaction and trust. By analyzing their effectiveness across e-commerce platforms during high-traffic periods, the study provides insights for retailers aiming to improve customer experience and boost sales, without delving into the technical details of AI algorithms.

- The study is limited to the students of arts and science colleges, Madurai.
- The study is limited to analyzing consumer behavior during the festive season.

Objectives

- To understand the role of virtual shopping assistants in influencing the purchasing behavior and product choices of consumers during the festival season.
- To identify the features of AI chatbots and virtual assistants that contribute to consumer satisfaction and increased sales during festive shopping.
- To examine the challenges encountered in using AI Chatbots and Virtual Assistants during festive shopping.

Literature Review

1. **Huong, Hanh, Trang & Chi (2023) "The impact of AI chatbots on customer experience in online retailing in an emerging economy"** examines the impact of AI chatbots on customer experience using data from 2,477 respondents. This study is conducted in Vietnam, an emerging economy. The results highlight that chatbot customization, perceived control, and interactive speed significantly influence cognitive experiential states. Additionally, chatbots independently affect emotional (affective) states. These findings underscore the pivotal role of chatbots in improving customer satisfaction and fostering repurchase intentions.

2. **Joshi, J. (2023) "The role of Chatbots and AI assistants in customer engagement"** explored how chatbots and AI assistants impact customer engagement, analyzing responses from 500 participants across retail, banking, and hospitality sectors. The study found that these tools enhance engagement through instant responses, personalization, and 24/7 support but identified reduced satisfaction when chatbots failed to handle complex issues, emphasizing the need for human-AI collaboration.
3. **Rahevar M. (2022) "The Adoption of AI-Driven Chatbots into Recommendation for E-Commerce Systems to Targeted Customer in the Selection of Product"**. This study explored the integration of AI-driven chatbots in e-commerce systems to assist customers in product selection, using a sample of 400 participants. The findings suggested that chatbots improved product recommendation accuracy and personalized shopping experiences, leading to higher customer satisfaction and conversion rates. However, challenges related to data privacy and customer trust were also identified as potential barriers to successful adoption.
4. **Adam, Wessel, & Benlian (2021) "AI-based chatbots in customer service and their effects on user compliance"**. This study investigated how AI chatbots in customer service influence user compliance and behavior, using a sample of 450 participants. The findings revealed that chatbots positively impacted user compliance by offering efficient, consistent, and timely assistance. However, the study also pointed out that user trust in the chatbot's capabilities played a crucial role in ensuring compliance, with lower trust levels leading to reduced effectiveness.

Research Methodology

The research is descriptive and adopted a survey strategy. The research is conducted among the students of arts and science colleges in Madurai, Tamil Nadu, India using Convenient Sampling method. The final sample included 112 students from various arts and science colleges belonging to the age group of 17 - 23 years. Data is collected through both primary and secondary sources. Through primary sources, a structured questionnaire is used to collect the data with the details about the demographic profile of the respondents and questions related to satisfaction and challenges with regard to AI chatbots and Virtual Assistants in shaping their festive season purchase. Secondary data from Journals, books, and websites is used.

Analysis and Interpretation

1. Percentage Analysis

Table 1 Platforms used for Festive Shopping

S. No	Platforms	Number of Respondents	Percentage
1.	Online Marketplace	67	60
2.	Retailer Websites	28	25

3.	Social Media Platforms	14	12
4.	Mobile Apps	3	3
	TOTAL	112	100

Source: Primary Data

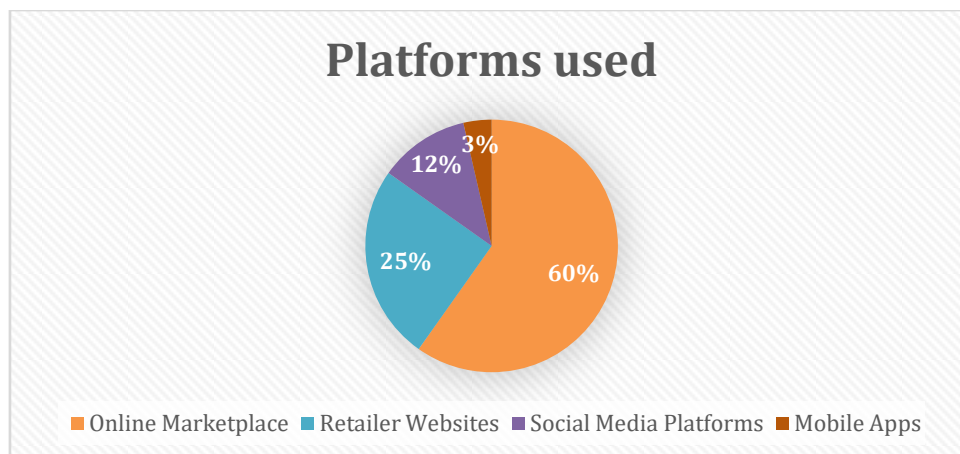


Figure 1 Platforms used for Festive Shopping

Table 1 shows that 60% of respondents prefer online marketplaces like Amazon for festive shopping, while only 3% use mobile apps. This highlights that people favour online marketplaces due to their convenience, wide product selection, and one-stop-shop appeal, compared to retailer websites, social media platforms, or mobile apps.

Table 2 Kinds of Product Purchased

S. No	Products	Number of Respondents	Percentage
1.	Apparels and Accessories	47	42
2.	Home Appliances and Decors	33	29.50
3.	Electronics and Gadgets	22	19.60
4.	Jewellery and Luxury Items	10	8.90
	TOTAL	112	100

Source: Primary Data

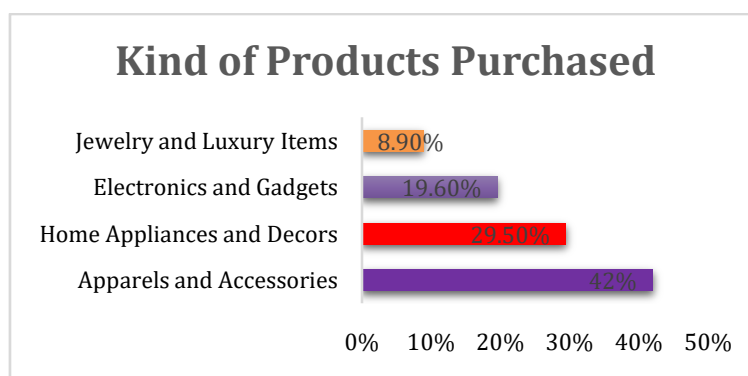


Figure 2 Kind of Products Purchased

Table 2 indicates that Apparels are the most purchased product category (42%), followed by home appliances (29.5%) and electronics (19.6%), indicating a focus on every day and practical items, while jewels (8.9%) are the least purchased, likely due to their higher cost or less frequent demand. This highlights students' preference for affordable products over luxury goods.

Table 3 Effectiveness of AI - Driven Product Recommendations

S. No	Effectiveness	Number of Respondents	Percentage
1.	Yes	57	50.9
2.	No	17	15.3
3.	At times	38	33.9
	TOTAL	112	100

Source: Primary Data

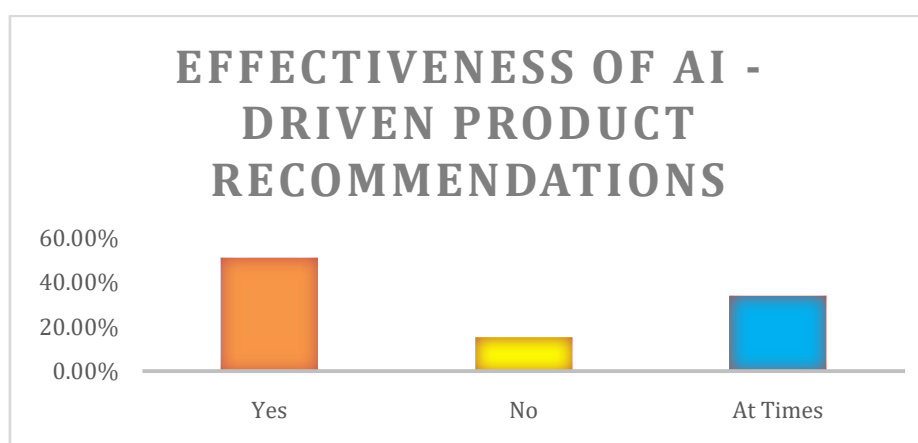


Figure 3 Effectiveness of AI - Driven Product Recommendations

Table 3 shows that 50.9% of respondents find AI suggestions relevant and aligned with their preferences, while 33.9% view them as sometimes relevant, indicating inconsistency. 15.2% felt the suggestions were not aligned with their preferences, highlighting room for improvement in delivering consistent and personalized recommendations.

Table 4 Product Discovery through AI Chatbots

S. No	Discovery of New Brands	Number of Respondents	Percentage
1.	Yes	70	62.5
2.	No	20	17.9
3.	Unsure	22	19.6
	TOTAL	112	100

Source: Primary Data

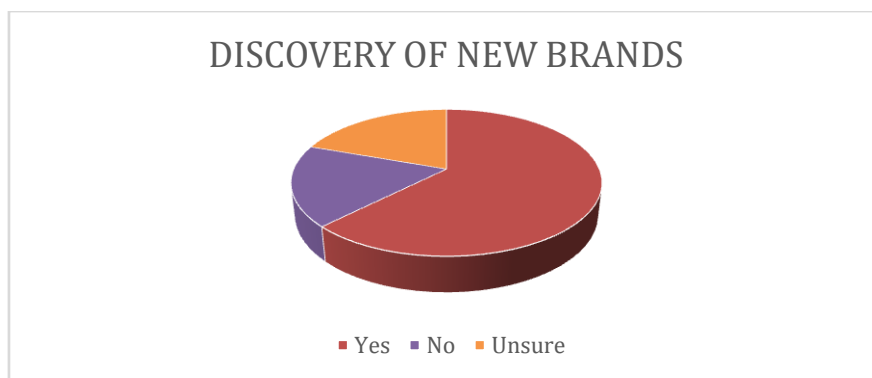


Figure 4 Product Discovery through AI Chatbots

Table 4 indicates that the majority of respondents (70) agree that AI chatbots help in discovering new products and brands, showcasing their effectiveness. However, 20 respondents do not find them helpful, and 22 of them are unsure, indicating the need for better optimization and awareness of chatbot capabilities.

2. Garret Ranking

Table 5 Features of AI Chatbots and Virtual Assistants

S. No	Features	Total	Average Score	Rank
1.	Personalized recommendations	6872	61.36	I
2.	User Interface and ease of use	5933	52.97	III
3.	Exclusive festive deals and discounts	5237	46.76	VIII
4.	Shipping cost and delivery time	5722	51.09	V
5.	Trust worthiness of the platforms	5549	49.54	VI
6.	Variety of products available	6250	55.80	II
7.	Instant responses	5834	52.09	IV
8.	Payment options	5250	46.87	VII
9.	Customer support availability	4634	41.37	IX
10.	Multi language support	4454	39.77	X

Source: Primary Data

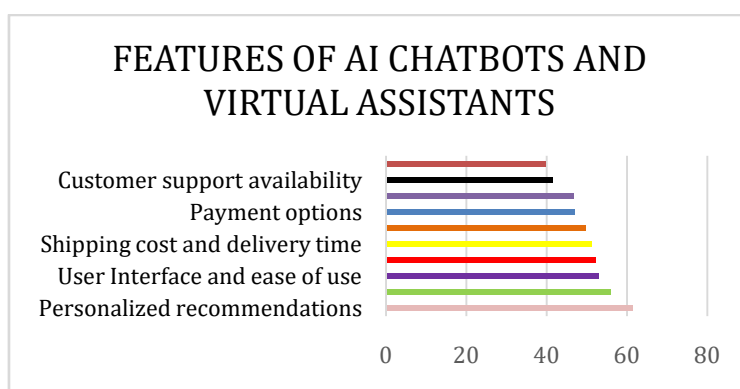


Figure 5 Features of AI Chatbots and Virtual Assistants

From Table 5, The Ranking Analysis shows that **personalized recommendations** are the most valued feature of AI chatbots and virtual assistants, followed by the **variety of products available** and the **user interface and ease of use**. This indicates users prioritize tailored suggestions and product choice, with ease of use being important but secondary.

3. Weighted Average Ranking Analysis

3.1. Level of Satisfaction in using AI Chatbots and Virtual assistants During Online Festive Shopping

Table 6 Level of Satisfaction

S. NO	Statements	Weighted Average	Rank
1.	AI chatbots make it easier to find products quickly on e-commerce sites.	4.17	I
2.	Virtual assistants provide reliable and accurate information about products and services.	3.84	11
3.	Using AI chatbots for customer support is more convenient than contacting human agents.	3.69	1V
4.	AI-powered virtual assistants help save time during the shopping process.	3.72	111
5.	I trust the recommendations and solutions provided by AI chatbots and virtual assistants.	3.33	V

Source: Primary Data

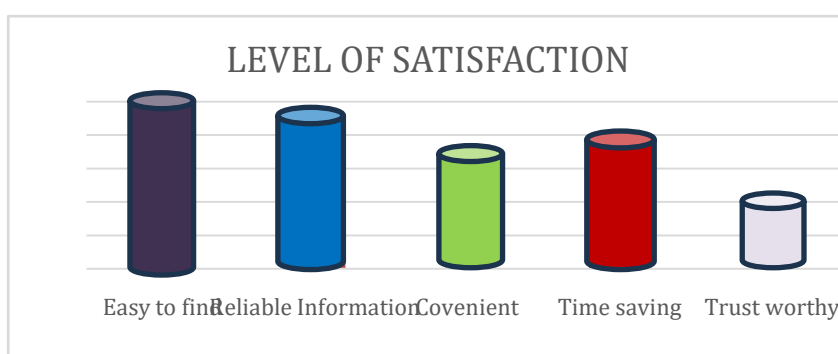


Figure 6 Satisfaction Level of the Respondents

Table 6 shows that AI chatbots and virtual assistants are highly valued for enhancing the shopping experience. The high level of satisfaction is expressed for **product discovery**, followed by **reliable and accurate information**, highlighting students' appreciation for convenience and trust. **Time-saving** during shopping ranks third, indicating students value efficiency, though slightly less than product ease and accuracy.

3.2. Degree of Agreement towards the Challenges Faced with AI-Powered Tools during Festive Shopping

Table 7 Challenges Encountered with AI Powered Tools

S. No.	Challenges	Weighted Average	Rank
1.	Lack of personalization	3.74	I
2.	Inaccurate or irrelevant recommendations	3.61	VI
3.	Limited problem-solving ability	3.64	V
4.	Misunderstanding user requests	3.66	IV
5.	Over-dependence on automated responses	3.70	II
6.	Privacy concerns	3.69	III
7.	Technical glitches	3.61	VII
8.	Lack of trust in AI recommendations	3.57	IX
9.	Limited language options	3.40	X
10.	Excessive promotional content	3.60	VIII

Source: Primary Data

Table 7 highlights key challenges with AI tools during festive shopping. The top concern is **lack of personalization** (3.74), with users receiving generic interactions. **Overdependence on automated responses** (3.70) follows, leading to impersonal support. **Privacy concerns** (3.69) rank third, as students are unsure about data usage. These issues suggest a need for more user-centric, context-aware AI.

4. Independent Sample T-Test

Table 8 Level of Satisfaction

Level of Satisfaction	Gender	N	Mean	Std. Deviation	Std. Error Mean
	Female	64	3.7844	.78421	.09803
Male	48	3.7000	.81057	.11700	

Source: Primary Data

Table 9 Significant Difference Between Gender and Level of Satisfaction

Satisfaction Level	Levene's Test for Equality of Variances			t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
	Equal variance assumed	.109	.742	.555	110	.580	.08437	.15191
Equal variance not assumed			.553	99.551	.582	.08437	.15263	

Source: Primary Data

- **H0** – There is a significant difference between Gender and the level of satisfaction of the students towards Chatbots and Virtual Assistants.
- **H1** - There is no significant difference between Gender and the level of satisfaction of the students towards Chatbots and Virtual Assistants.

Table 9 shows no significant difference in satisfaction with chatbots and virtual assistants between male and female students, with a p-value of 0.580 ($p > 0.05$). This suggests that gender does not impact satisfaction, likely because these tools are designed for universal usability and performance.

5. Oneway ANOVA

Table 10 – Difference Between Gender with Regard to Challenges

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.030	2	.030	.054	.817
Within Groups	62.177	110	.565		
Total	62.207	112			

Source: Primary Data

- **H0** – There is a significant difference between gender with regard to the challenges faced by the students towards Chatbots and Virtual assistants during festive shopping.
- **H1** – There is no significant difference between gender with regard to the challenges faced by the students towards Chatbots and Virtual assistants during festive shopping.

The ANOVA test was conducted to examine whether there is a significant difference between genders in the challenges they face while using chatbots and virtual assistants. The results indicate that there is no statistically significant difference between genders ($p > 0.05$). This means that male and female students experience similar types and levels of challenges when interacting with chatbots and virtual assistants during their festive season shopping.

Findings

- 78.57% of the respondents are between the age group of 19 – 21 years old.
- 57.14% of the students are female whereas 42.86% of them are male.
- 59.8% of students prefer shopping for festivals via online marketplaces like Amazon, Flipkart, Ajo and so on.

- 42 % of the students primarily purchase apparels and accessories whereas 29.5% of them are purchasing home appliances during festivals to take advantage of discounts and festive offers.
- The average spending by students on festive shopping is below ₹5,000.
- Students of arts and science colleges in Madurai actively engage in online shopping for festivals to compare prices (38.4%) and read reviews (34.8%) for making informed purchasing decisions.
- The use of virtual shopping assistants among students during festivals is rare and 14.3% of the respondents use them only when they are unsure about the product.
- 53.6% of the students agrees that AI recommendations lead to unplanned purchases or increased spending.
- 59% of the students agrees that using AI chatbots for customer support is more convenient than contacting human agents.
- 20.16% of the students say that they do not agree with the recommendations and solutions offered by AI Chatbots and Virtual Assistants since they are not trust - worthy.
- 27% of the students would like to see social media integration as an additional feature in AI Chatbots.
- 34% of the respondents believe that AI chatbots and virtual assistants tend to push excessive promotional content.
- There is no significant difference between gender with regard to the challenges faced by the students towards Chatbots and Virtual assistants during festive shopping.

Suggestions and Recommendations

- Since most students shop for festivals online and spend less than ₹5,000, platforms may focus on budget-friendly discounts and combo deals on apparel and home appliances.
- E-commerce platforms may use advanced AI algorithms to analyse students' shopping habits, preferences, and budgets to provide tailored recommendations for festive products and deals.
- The online platforms may provide interactive features like virtual try-ons for fashion or AR previews for home appliances to increase purchase confidence among students rather than comparing prices and reading reviews.
- AI Chatbots may be designed to provide instant and accurate responses to frequently asked questions, such as return policies, warranty details, and payment options.

Conclusion

AI chatbots and virtual assistants are crucial in shaping festive season shopping, particularly for tech-savvy college students. They provide instant support, personalized recommendations, and easy access to deals, enhancing the shopping experience. However, challenges like excessive promotions and limited awareness of their capabilities remain. E-commerce platforms can improve by focusing on usability, transparency, and user-centric features such as budget-friendly suggestions. As AI evolves, these tools have the potential to transform festive shopping, offering a more seamless and satisfying experience.

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