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Consumer satisfaction and perception of voice assistant tools in the Tumukuru district

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Abstract
Utilizing cutting-edge technologies and related apps is simplifying our work. In recent years, there has been a considerable increase in the number of people using internet services and making purchases. Voice assistants, such as Alexa, Google Assistant, Apple Siri, and others, are useful tools for simplifying web searches. A few studies have been conducted on the tools and their public uses. Most studies concentrate on total utilization and satisfaction. This study's main objective is to ascertain how convenient and fulfilling voice help tools are. It also assesses how voice assistants affect consumers' general purchase decisions. Respondents who reside in Tumukuru City who use voice assistants to make purchases provide the relevant information. A systematic questionnaire comprising both closed-ended and open-ended questions is used to gather data. Five-point Likert scales are used to capture all of the significant variables (perception, contentment, etc.). A maximum of 300 responders can be included in the sample. Respondents' perceptions vary depending on their age group, it is discovered. A non-probability purposive sampling technique was used, and the study's target audience was consumers who were at least eighteen years old. The majority of respondents think voice assistants are user-friendly. The security and reliability of the voice assistants' tools are widely known to the respondents. There are very substantial positive relationships between overall satisfaction and performance, dependability, user interface, and trust/privacy.

Keywords: Consumer purchase decision internet, perception, target audience, user interface

Introduction

Artificial intelligence (AI) has advanced so quickly that it has drastically changed consumer behavior, especially when it comes to retail and shopping. Voice assistants—AI-powered programs like Amazon Alexa, Google Assistant, Apple Siri, and Microsoft Cortana—that enable people to communicate with digital devices using natural language are among the most noteworthy developments in this field. Voice assistants, which were first created to help with basic activities like playing music or setting alarms, have matured into sophisticated platforms that can carry out complicated operations like online shopping, organizing shopping lists, completing orders, and making product recommendations. The way customers engage with brands and merchants has been completely transformed by the incorporation of voice assistants into the purchasing experience. Voice technology improves accessibility and convenience by offering a hands-free, conversational interface. This could simplify decision-making and lessen the friction that comes with using standard e-commerce interfaces. Businesses are investing in optimizing their platforms for voice search and voice commerce (v-commerce), further integrating these technologies into the purchasing experience, as more consumers use smart speakers and speech-enabled devices. Even if voice assistants are becoming more and more common, there are still opportunities and difficulties in influencing consumer behavior. On the one hand, they provide context-aware and tailored interactions, which may boost client loyalty and satisfaction. However, issues with voice search accuracy, the absence of visual clues, and worries about data privacy may have an impact on customer confidence and purchasing choices. Additionally, voice-based transactions frequently restrict consumers' capacity to visually compare options, which may change how decisions are assessed and made. With a focus on user behavior, satisfaction, trust, and decision-making processes, this study attempts to investigate how voice assistants affect the consumer purchasing experience. It will look at how speech interactions are different from traditional digital interactions, what influences consumers' acceptance of voice technology when they purchase, and the ramifications for retailers and marketers trying to adjust to this changing trend. Stakeholders can better coordinate their plans to satisfy the demands of an increasingly voice-enabled consumer base by developing a deeper grasp of this trend.

Literature Review

According to Aditya Kumar Jha *et al*. (2024) [1], people are continuously looking for a quick fix that will improve multitasking efficacy. According to the findings, 45% of consumers have used voice recognition technology for buying, and 70% of consumers are aware of it. Businesses have seen an increase in sales, better consumer interaction, and stronger brand loyalty thanks to voice recognition. With voice assistants gaining popularity, the mobile market is expanding quickly. They came to the conclusion that search engines will continue to improve themselves as voice search increased.

According to Dr. Kavya *et al*. (2024) [2], search engine optimization (SEO) and online advertising strategies need to change as voice search usage grows. Understanding how customers use speech technologies to conduct searches is the primary goal. People's tastes are being influenced by their age and gender while using voice assistant searchers to find products and engage with marketing. They came to the conclusion that companies must constantly adapt to voice search technologies in order to remain competitive online.

A study by Surbhi Choudhary *et al*. (2024) [3] assessed the variables affecting customer engagement and use of voice assistants powered by artificial intelligence. The main goal was to find out how Voice Search SEO optimization affected marketing campaigns' effectiveness and shifts in

consumer behavior. The results showed that voice assistants greatly improve marketing tactics and have a favorable impact on consumer behavior. The study came to the conclusion that voice assistant adoption is mostly influenced by perceived advantages and value.

According to Mehak Mahajan (2023) [4], the study looks at ways to make voice assistants like Alexa, Siri, and Google Assistant more widely accepted. This article's primary goal is to look into the variables that affect consumers' adoption of voice assistants (VA) and how they affect their intention to make a purchase. The findings demonstrated that anthropomorphism raises customer acceptability of voice assistants, which in turn raises their propensity to make purchases. According to the study's findings, consumers' acceptance of voice assistants and intentions to make purchases are positively impacted by anthropomorphism.

Statement of the Problem

Although voice assistants such as Google Assistants, Siri, and Alexa are convenient, their usage for purchasing is still restricted because of privacy, payment security, and voice recognition accuracy issues. Another factor undermining trust is the absence of tailored recommendations. The purpose of this study is to investigate these issues and consumer behavior in order to improve the uptake and efficiency of voice commerce.

Objectives of the study

- To examine the ways in which voice assistants affect consumers' purchasing decisions and behaviors.
- To assess the degree of customer pleasure and trust in voice assistants when purchasing.
- To determine the main elements influencing voice assistant adoption by customers in a retail setting

Questions for Research

- When consumers shop online, how do voice assistants affect their decisions?
- How much faith do customers have in voice assistants when making decisions about their purchases?
- What aspects, such as accuracy, ease, and personalization, encourage or impede the use of voice assistants in retail?

Methodology of Research

The impact of voice assistants on customer shopping experiences was investigated in this study utilizing a descriptive and correlational research design and a quantitative research approach. Collected data via a structured online survey given to a wide range of customers who have used voice assistants (such Apple Siri, Google Assistant, or Amazon Alexa) for shopping-related tasks. Both closed-ended and Likert-scale questions were included in the survey to gauge factors such perceived convenience, trust, satisfaction, usability, privacy concerns, and frequency of shopping. The gathered data was examined using statistical methods like regression analysis, rank analysis and descriptive statistics to find correlations between important variables and test the suggested hypotheses. In order to guarantee that respondents had relevant experience with voice-assisted shopping, a non-probability purposive sampling technique was adopted. The study concentrated on consumers who were at least eighteen years old. Throughout the study, ethical principles such as informed consent and data confidentiality were closely adhered to.

Research Design: The Convenient Research design was applied in the research methodology of the study

Sources of Data: The study is based on primary data and secondary data. The primary data have been collected by using the questionnaire and the secondary data has been collected from the various website and internet and magazine.

Sampling Techniques: In order to guarantee that respondents had relevant experience with voice-assisted shopping, a non-probability purposive sampling technique was adopted. The study concentrated on consumers who were at least eighteen years old. Throughout the study, ethical principles such as informed consent and data confidentiality were closely adhered to.

Scope of the Inquiry

The effect of voice assistants on consumers' intentions to make purchases will be examined. Additionally, it looks at how voice assistants affect consumer behavior as well as how they affect various consumer demographics, such as age, gender, income, and educational attainment. The goal of the study is to show how voice assistants have affected consumer decision-making, including how much brand awareness has spread among consumers and how it has affected purchasing decisions. The study is confined to the respondents residing in Tumukuru City who use voice assistants to make purchases

Limitations of the Study

- People expressing their personal experiences are essential to the study. Due to forgetfulness or a desire to provide answers that are socially acceptable, their responses may not always be true.
- The results may not be as broadly applicable as they may be because the sample size of 300 respondents may not be representative of the whole population.
- The population sample used in the study may differ in terms of demographics like age, gender, income, or educational attainment.

Data Analysis and Interpretation

Table 1: Demographic Profile of Respondents

Demographic Factors		N(Number of Respondents	Percentage
Gender	Male	194	64.67
	Female	106	35.33
	Total	300	100.00
Age	Below 25	110	36.67
	26-35	70	23.33
	36-45	62	20.67

	Above 45	58	19.33
	Total	300	100.00
Marital Status	Unmarried	170	56.67
	Married	130	43.33
	Total	300	100.00
Annual Income	Below Rs.3,00,00	104	34.67
	Rs.3,00,000-Rs.5,00,00	92	30.67
	Rs.5,00,000-Rs.7,00,00	54	18.00
	Above Rs.7,00,000	50	16.66
	Total	300	100.00

Source: Author's Compilation

The demographic profile of the respondents is displayed in the above table along with data for age, gender, marital status, and yearly income. 64.67% of the respondents are men, according to the data. The majority of respondents (36.67%) fall into the under-25 age group, indicating that a greater number of younger people actively use voice assistants. The majority of responders who are single (56.67%) use voice aids. The proportion of married respondents who use these devices is likewise high. The majority of responders (34.67%) fall into the "below Rs.3,00,000 income" group.

Hypotheses

H_0: There is no discernible correlation between the respondents' age group and mean perception score.

Summary				
Age Group	Count	Sum	Mean	Variance
Below 25	112	411	3.6696	2.4732
26-35	76	299.5	3.9408	2.0232
36-45	66	255.5	3.8712	2.3212
Above 45	46	170	3.6957	1.9540

Table 2: Anova

Anova Table						
Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Value	P value	F-Critical Value
Between Groups	4.1919	6	0.699	0629	0.609	5.334
Within Groups	328.1548	293	1.1120			
Total	332.3467	299				

Source: Author's Compilation

Since the p value (0.609) exceeds the fundamental threshold of 0.05 at the 5% level of significance, the null hypothesis is accepted. It indicates that perception levels vary among the different age group groupings.

Table 3: Descriptive Statistics

Awareness level	Mean	Standard Deviation	Sample Variance	Kurtosis	Skewness	Confidence Level(95%)
Perceived usefulness	3.6733	1.1381	1.2953	-0.6808	-0.3536	0.1836
Ease of use	3.9600	1.1285	1.2736	-0.4464	-0.7441	0.1821
Trust and security	3.8067	1.2023	1.4456	-0.5401	-0.7005	0.1940
Personalization	3.7067	1.2981	1.6852	-0.8890	-0.5574	0.2094
Overall perception	3.7867	1.0561	1.1153	-0.7710	-0.5016	0.1704

Source: Primary data

The aforementioned descriptive statistics data table shows the mean, standard deviation, skewness, kurtosis, and other characteristics of the respondents' various perception levels. The mean value for ease of use is 3.96, with trust and security coming in second. Personalization has a high standard deviation score (1.2681), followed by security and trust (1.2023).

Rank Analysis

Table 4: Ranking of the Reasons Why the Respondents May Not Use Voice Search Assistance For Shopping

S. NO	Factors	1	2	3	4	5	6	7	8	Total	Rank
1	Lack of trust	106 (8)	85 (7)	49 (6)	16 (5)	25 (4)	8 (3)	3 (2)	8 (1)	1955	1
2	Difficulty in finding products	32 (8)	70 (7)	81 (6)	38 (5)	40 (4)	16 (3)	18 (2)	5 (1)	1671	2
3	Limited product information	35 (8)	60 (7)	85 (6)	49 (5)	38 (4)	8 (3)	19 (2)	6 (1)	1661	3
4	Privacy concern	38 (8)	60 (7)	46 (6)	75 (5)	38 (4)	32 (3)	8 (2)	3 (1)	1642	4
5	Lack of visual confirmation	27 (8)	33 (7)	41 (6)	60 (5)	57 (4)	41 (3)	22 (2)	19 (1)	1407	7
6	Inaccurate voice recognition	82 (8)	30 (7)	38 (6)	27 (5)	22 (4)	52 (3)	27 (2)	22 (1)	1549	5
7	Lack of detailed product descriptions	36 (8)	25 (7)	46 (6)	27 (5)	41 (4)	30 (3)	49 (2)	46 (1)	1272	8
8	Frustrating repetition	90 (8)	38 (7)	25 (6)	14 (5)	16 (4)	19 (3)	44 (2)	54 (1)	1469	6

Source: Primary data

The above table shows that lack of trust ranks (1), difficulty in finding products (2), limited product information (3), privacy concern (4), inaccurate voice recognition (5), frustrating repetition (6), lack of visual confirmation (7), lack of detailed product descriptions (8).

Findings, Conclusion and Suggestions

Voice assistants, such as voice-activated smartphone apps, can be used in homes, hospitals, and community clinics. A software agent known as a virtual assistant (VA) can perform a number of responsibilities or offer a service to a user in response to written or spoken instructions or questions. Chat bots are often used by these technologies to speed up work completion. Interaction can occur through text, graphical user interface, or voice because certain virtual assistants can comprehend human speech and respond with synthesized voices. The majority of responders who use voice assistance technologies are men. The main factors influencing customer happiness are performance, dependability, user interface, and trust/privacy, all of which show very high positive relationships with overall satisfaction. Performance, The main factors influencing satisfaction are trust/privacy, dependability, and user interface. When it comes to descriptive statistics, ease of use has the highest mean value (3.96), followed by security and trust.

Suggestions

- To better accommodate individual preferences, enhance the Personalized Recommendations feature.
- Expand Product Availability Information To lower uncertainty, provide more precise and current product availability information.
- Extend Product Categories To accommodate a wide range of consumer tastes, think about expanding the number of product categories.
- Improve Voice Recognition and Search Results Accuracy to raise customer satisfaction
- Expand accessibility to enhance voice assistant device compatibility.

Future Research Directions

The study adds to the body of knowledge regarding VA-related consumer behavior. However, there are certain issues with the paper that could be fixed by future scholars. First, Tumukuru city respondents provided data for the study. To comprehend the different levels of acceptance, statistics from industrialized and emerging districts should be compared.between people with various cultural origins. Scholars are also able to draw similarities between urban and rural areas. Second, the concept can be tested in a variety of sectors, including banking, finance, and education. Third, demographics, age, gender, education, income, and occupation are examples of potential moderators that can be taken into account.VA acceptance can also be understood through behavioral moderating. Fourth, by identifying additional potential factors like VA's brand, etc., future study should also aim to create a more comprehensive framework. Finally, studies should be done to investigate how VA gender affects attitudes and levels of acceptability.

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