International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Consumers Satisfaction, Perception Towards Voice Assistants Tools: An Empirical Study Among the Consumers in Malappuram District

Mr. Sreejith P[1], Dr. P. Kannan[2]

[1]PhD Research scholar in Commerce, Dr. NGP Arts and science college, Coimbatore
[2]Associate Professor of Commerce, Dr. NGP Arts and science college, Coimbatore

Abstract

The usage of advanced technologies and allied applications are easing our works. Now a days there is a larger number of increase in the number of online shoppers and online service users. Voice assistance tools such as Alexa, google assistants, Apple siri, etc. are the powerful tool for easing online search efforts. Only few studies are conducted about the tools and its applications among public. Most of the studies are concentrated on the satisfaction and its general usage. This study is primary investigate the convenience and satisfaction level for the usage of the voice assistance tools. It also measures the influence of voice assistants on overall consumer purchasing behavior. The necessary data are gathered from respondents using voice assistants' tools for their purchase residing in Malappuram district. Data are collected by using a structured questionnaire with open ended and closed ended questions. The entire important variable (satisfaction, perception, etc) are collected by using 5 point Likert scales. The sample size is limited to 150 respondents. It is found that respondent's level of perception is different among their age group. The research focused on consumers aged 18 and above, and a non-probability purposive sampling method was employed. Most of the respondents are considering the voice assistants are of ease of use. The respondents are well aware about the trust and security of the voice assistants' tools. Performance, reliability, user interface, and trust/privacy exhibit very strong positive correlations with overall satisfaction

Keywords: Voice Assistants, satisfaction, Perception, Trust and security, Convenience,

Introduction

The rapid advancement of artificial intelligence (AI) has significantly transformed the landscape of consumer behavior, particularly in the context of retail and shopping. Among the most notable innovations in this space are voice assistants—AI-powered tools such as Amazon Alexa, Google Assistant, Apple Siri, and Microsoft Cortana—that allow users to interact with digital devices using natural language. Originally developed to facilitate simple tasks like setting alarms or playing music, voice assistants have evolved into sophisticated platforms capable of executing complex functions, including online shopping, managing shopping lists, placing orders, and offering product recommendations. The integration of voice assistants into the consumer shopping journey has redefined how consumers interact with brands and retailers. By providing a hands-free, conversational interface, voice technology enhances convenience and accessibility, potentially streamlining the decision-making

process and reducing the friction associated with traditional e-commerce interfaces. As more consumers adopt smart speakers and voice-enabled devices, businesses are investing in optimizing their platforms for voice search and voice commerce (v-commerce), further embedding these technologies into the shopping experience.

Despite their growing popularity, voice assistants present both opportunities and challenges in influencing consumer behavior. On one hand, they offer personalized and context-aware interactions, which can lead to increased customer satisfaction and loyalty. On the other hand, limitations in voice search accuracy, lack of visual cues, and concerns about data privacy may affect consumer trust and purchase decisions. Moreover, voice-based transactions often limit consumers' ability to compare options visually, potentially altering the way choices are evaluated and made. This research aims to explore the impact of voice assistants on the consumer shopping experience, focusing on user behavior, satisfaction, trust, and decision-making processes. It will examine how voice interactions differ from traditional digital interactions, what factors drive consumer acceptance of voice technology in shopping, and the implications for marketers and retailers seeking to adapt to this evolving trend. By gaining a deeper understanding of this shift, stakeholders can better align their strategies to meet the expectations of an increasingly voice-enabled consumer base.

Objectives

- To analyze how voice assistants influence consumer shopping behavior and decision-making.
- To examine the level of consumer trust and satisfaction in using voice assistants for shopping.
- To identify key factors affecting consumer adoption of voice assistants in the retail context.

Research Questions

- How do voice assistants influence consumer purchasing decisions during online shopping?
- What level of trust do consumers place in voice assistants when making shopping-related decisions?
- What factors (e.g., convenience, accuracy, personalization) drive or hinder the adoption of voice assistants for shopping?

Research Methodology

This study adopted a quantitative research methodology using a descriptive and correlational research design to examine the impact of voice assistants on consumer shopping experiences. Data collected through a structured online survey distributed to a diverse sample of consumers who have experience using voice assistants (such as Amazon Alexa, Google Assistant, or Apple Siri) for shopping-related activities. The questionnaire included both closed-ended and Likert-scale questions to measure variables such as perceived convenience, trust, satisfaction, usability, privacy concerns, and shopping frequency. The collected data analyzed by using statistical techniques such as descriptive statistics, correlation analysis, and regression analysis to test the proposed hypotheses and identify relationships between key variables. The research focused on consumers aged 18 and above, and a non-probability purposive sampling method was employed to ensure respondents have relevant experience with voice-assisted shopping. Ethical considerations, including informed consent and data confidentiality, strictly observed throughout the study.

Result and Discussion

Demographic Profile

Gender	**No. of Respondents**	**Percent**
Male	98	64.90%
Female	53	35.33%
Total	150	100.00%
Age	**No. of Respondents**	**Percent**
Below 30	56	37.10%
31-40	35	23.20%
41-50	31	20.67%
Above 50	29	19.20%
Total	150	100.00%
Marital status	**No. of Respondents**	**Percent**
Unmarried	85	56.30%
Married	66	44.00%
Total	150	100.00%
Annual income	**No. of Respondents**	**Percent**
Below 200000	52	34.40%
200000-400000	46	30.50%
400000-600000	27	18.00%
Above 600000	26	17.20%
Total	150	100.00%

(Source: Primary Data)

The above table shows that the Demographic profile of the respondents with Gender, age, marital status and annual income variables. It indicates that 64.90% of the respondents are male. Majority of the respondents are belongs to Below 30 age category (37.10%), it means more youngers are actively engaged in the usage of Voice assistances technologies. Most of the unmarried respondents (56.30%) are engaged in voice assistance technologies. Married respondents are also using these technologies in a proportionate number. Majority of the respondents (34.40%) are having below 200000 income category.

H0: There is no significant relationship between mean score of perception and age group of the respondents.

SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
Upto 30	56	205.5	3.6696	1.2366
31-40	38	149.75	3.9408	1.0116
41-50	33	127.75	3.8712	1.1606

Above 50	23	85	3.6957	0.9770

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2.095947	3	0.699	0.622	0.602	2.667
Within Groups	164.0774	146	1.124			
Total	166.1733	149				

The p value (0.602) is more than the basic limit 0.05 at 5% level of significance, we accept the null hypothesis. It means perception level is different among the various age group categories.

Descriptive statistics

Awareness level	**Mean**	**Standard Deviation**	**Sample Variance**	**Kurtosis**	**Skewness**	**Confidence Level (95.0%)**
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

The above descriptive statistics data table reveals that mean, standard deviation, kurtosis, skewness, etc of the different perception level of the respondents. Ease of use is having mean value (3.96), it is followed by trust and security. In case of standard deviation, personalization is having high value (1.2681), it is followed by trust and security (1.2023).

Correlation between convenience and satisfaction level towards the usage of Voice Assistance tools

	Time saving	*Accessbility*	*effort reduction*	*Availabilty*	*Overall perception*	*Performance*	*Reliability*	*User interface*	*Trust and privacy*	*Overall satisfaction*
Time saving	1									
Accessbility	0.6952	1								
effort reduction	0.6647	0.7115	1							
Availabilty	0.6797	0.7249	0.7933	1						
Overall perception	0.8532	0.8797	0.8976	0.9099	1					
Performance	-	0.0158	0.109	0.0417	0.0406	1				

	0.0281		4		1					
Reliability	0.0102	0.0567	0.0610	0.1196	0.07203	0.4615	1			
User interface	0.0242	0.0428	0.1175	0.0516	0.06728	0.5514	0.5748	1		
Trust and privacy	0.0632	0.1678	0.1480	0.2018	0.16598	0.4210	0.4846	0.5451	1	
Overall satisfaction	0.0245	0.0936	0.1367	0.1364	0.11243	0.7422	0.8077	0.8363	0.7855	1

The above table shows the correlation analysis between convenience and satisfaction of consumers towards the usage of voice assistance tools for their purchase and other activities. Convenience-related factors such as time-saving, accessibility, effort reduction, and availability show a very strong positive correlation with overall perception of voice assistant technology. Performance, reliability, user interface, and trust/privacy exhibit very strong positive correlations with overall satisfaction, making them the primary drivers of consumer satisfaction. Performance, reliability, user interface, and trust/privacy are key satisfaction drivers. Improving technical reliability and interface quality will likely have the biggest positive effect on consumer satisfaction.

Conclusion

Voice assistants, like smartphone applications that use voice technology, can be utilized in community clinics, hospitals, and homes. A virtual assistant (VA) is a software agent that may carry out a variety of duties or provide a service for a user in response to verbal or written commands or inquiries. These technologies frequently use chatbots to expedite the completion of tasks. Because certain virtual assistants can understand human speech and answer with synthesized voices, the interaction can take place via text, graphical user interface, or voice. Male respondents are mostly using voice assistance tools. Performance, reliability, user interface, and trust/privacy exhibit very strong positive correlations with overall satisfaction, making them the primary drivers of consumer satisfaction. Performance, reliability, user interface, and trust/privacy are key satisfaction drivers. In case of Descriptive statistics, Ease of use is having mean value (3.96), it is followed by trust and security.

References

1. Kaur, D., TARUNA, T., & Kaur, M. (2024). The Factors affecting the Perception of Generation Z users toward Voice Assistants. International Advanced Research Journal in Science, Engineering and Technology, 11(4). https://doi.org/10.17148/iarjset.2024.11453
2. Kim, M., & Kim, J. (2024). Artificial intelligence in voice assistants: User benefits explored. International Journal of Consumer Studies, 48(2). https://doi.org/10.1111/ijcs.13019
3. Hu, L. (2023). The Impact of Voice Assistants on Effort Saving, Decision Delegation and Satisfaction: An Abstract (pp. 267–268). https://doi.org/10.1007/978-3-031-24687-6_104
4. Marriott, H. R., & Pitardi, V. (2022). Opportunities and Challenges Facing AI Voice-Based Assistants: Consumer Perceptions and Technology Realities: An Abstract (pp. 81–82). Springer International Publishing. https://doi.org/10.1007/978-3-030-95346-1_35

5. Tandon, U., Jhamb, D., Mittal, A., & Jain, V. (2022). Fostering Consumers' Attitude and Satisfaction Towards Voice Assistants: An Empirical Validation. 451–456. https://doi.org/10.1109/CCiCT56684.2022.00086
6. Mo, L., Zhang, L., Sun, X., & Zhou, Z. (2024). Unlock Happy Interactions: Voice Assistants Enable Autonomy and Timeliness. Journal of Theoretical and Applied Electronic Commerce Research, 19(2), 1013–1033. https://doi.org/10.3390/jtaer19020053
7. Mishra, A., & Shukla, A. (2020). Psychological Determinants of Consumer's Usage, Satisfaction, and Word-of-Mouth Recommendations Toward Smart Voice Assistants (Vol. 617, pp. 274–283). Springer, Cham. https://doi.org/10.1007/978-3-030-64849-7_24
8. Melumad, S. (2023). Vocalizing Search: How Voice Technologies Alter Consumer Search Processes and Satisfaction. Journal of Consumer Research. https://doi.org/10.1093/jcr/ucad009
9. Bala, P. K., Chakraborty, S., & Behera, R. K. (2024). Exploring antecedents impacting user satisfaction with voice assistant app: A text mining-based analysis on Alexa services. Journal of Retailing and Consumer Services. https://doi.org/10.1016/j.jretconser.2023.103586
10. Rzepka, C. H., Berger, B., Koslow, A., & Hess, T. (2023). Voice Assistant, Buy Coffee Capsules!: Understanding the Determinants of Consumers' Intention to Use Voice Commerce. 54, 137–159. https://doi.org/10.1145/3614178.3614185