

A STUDY ON USAGE BEHAVIOUR TOWARDS VIRTUAL ASSISTANT WITH SPECIAL REFERENCE TO HOME USERS IN CHENNAI

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ABSTRACT

Virtual assistant is boon for everyone in this new era of 21st century. It has paved way for a new technology where we can ask questions to machine and can interact with Intelligent Voice Assistant as people do with humans. This new technology attracted almost whole world in many ways like smart phones, laptops, computers etc. Some of the significant Voice Assistants are like Siri, Google Assistant, Cortana, and Alexa. IVAs are becoming increasingly popular but still enthusiasm inside the people has been developing. The users requesting the climate, making notes, requesting headings, composing an instant message, requesting an address and setting a schedule and found that members were very positive to utilizing discourse interfaces. There were still some improvements in voice speech recognition and people are searching best in contextual understanding too. The basic requirements of a user is to feel free and work in relax way.

Virtual assistants can do everything from answer questions, tell jokes, play music, and control items in the home such as lights, thermostats, door locks, and smart home devices. They can respond to many voice commands, send text messages, make phone calls, set up reminders.

KEYWORDS

Virtual Personal Assistant, Smart devices, intelligent voice assistant, Siri, Google Assistant, Cortana, and Alexa.

ABBREVIATIONS

VA- Virtual Assistant, IVA- Intelligent Voice Assistant.

INTRODUCTION

The term IVA is utilized conversely with terms, Conversational Agents, Virtual Personal Assistants, Personal Digital Assistants, Voice-Enabled Assistants or Voice Activated Personal Assistants. IVAs join talk affirmation lingo understanding, trade organization, tongue age and talk association to respond to clients request and sales. Voice engaged IVAs like Siri, Google Assistant, Microsoft Cortana and Amazon Alexa are by and large open on cutting edge cell phones, and continuously in homes (e.g. Amazon Echo and Google

Home) and automobiles (e.g. Google Assistant blend with Hyundai). The market for IVAs is foreseen to reach 4.61 billion by the mid 2020s.

IVAs are becoming increasingly popular but still enthusiasm inside the people has been developing for instance, researched the capability of discourse just interfaces (Siri with the screen blocked) for more seasoned users. The writers concentrated on requesting the climate, making notes, requesting headings, composing an instant message, requesting an address and setting a schedule and found that members were very positive to utilizing discourse interfaces. There were still some improvements in voice speech recognition and people are searching best in contextual understanding too. The basic requirements of a user is to feel free and work in relax way. One instance of human free interaction can be taken as pick up a phone call then directly instruct VPs for that.

REVIEW OF LITERATURE

A Survey Investigating Usage of Virtual Personal Assistants by Mateusz Dubiel, Martin Halvey, Leif Azzopardi this paper reveals the significant improvements in automatic speech interaction with Virtual Personal Assistants(VPAs) through speech remains irregular and sporadic. According to recent studies, currently the usage of VPAs is constrained to basic tasks such as checking facts, playing music, and obtaining weather updates. Usage of VPAs by frequent and infrequent users. We investigate how usage experience, performance expectations, and privacy concerns differ between these two groups. The results indicate that, compared with infrequent users, frequent users of VPAs are more satisfied with their assistants, more eager to use them in a variety of settings, yet equally concerned about their privacy.

Analyzing the Privacy Attack Landscape for Amazon Alexa Devices by Raphael Leong this paper explains about the introduction of Amazon's new intelligent personal assistant Alexa along with their Echo speaker counterpart, there has been a significant rise in interest and usage of smart-home products with over 10,000 Alexa skills currently available on the market for customers to use with their newfound Echo devices. The focus of our research is to investigate the potential privacy issues that may emerge in the context of always-on speakers that are now prevalent in people's homes. In this work, we organized study papers and industrial research into specific categories which can lead to potential privacy issues. Within our research, we analyzed the all potential security and privacy issues surrounding Alexa skills, Echo firmware and third-party hardware that acts as alternatives to the Echo device. Our core plan initially was to evaluate and statically analyze all the available Alexa skill repositories that were made public by developers on Github. We then branched out to look at issues regarding Echo firmware which is based off the Android OS and also review the state of third-party Alexa devices. Ultimately, we aim to give a concise overview of the current privacy attack landscape for Alexa devices and discuss potential security and privacy issues with voice enabled devices that could arise in the near future.

OBJECTIVE OF THE STUDY

- To identify and study the usage pattern of Virtual Assistant device in home life in Chennai.
- To examine the Users' Satisfaction on the services of Virtual Assistant device in home life in Chennai.

METHODOLOGY

The methodology used to identify the usage pattern of Virtual Assistant device in home life and the Users' Satisfaction on the services of Virtual Assistant device in home life in Chennai are Chi-square test and percentage analysis. The sample consists of 50 users of virtual assistant representing the home users in Chennai.

TABLE-1 SHOWING DEMOGRAPHIC INFORMATION OF THE RESPONDENTS

The percentage analysis of demographic indicators are given below in table 1

| S.N O | PARTICULARS | CATEGORY | FREQUENC Y | PERCEN T | VALID PERCEN T | CUMULATIV E PERCENT |
|----------|--------------------------------------|--------------|---------------|--------------|----------------------|------------------------|
| 1. | GENDER OF THE RESPONDENTS | MALE | 6 | 12.0 | 12.0 | 12.0 |
| | | FEMALE | 44 | 88.0 | 88.0 | 100.0 |
| | | TOTAL | 50 | 100.0 | 100.0 | |
| 2. | QUALIFICATION | UG | 35 | 70.0 | 70.0 | 70.0 |
| | | PG | 14 | 28.0 | 28.0 | 28.0 |
| | | PROFESSIONAL | 1 | 2.0 | 2.0 | 2.0 |
| | | DIPLOMA | 0 | 0.0 | 0.0 | 0 |
| | | TOTAL | 50 | 100.0 | 100.0 | 100.0 |

INFERENCE

The above table reveals the demographic information of the respondents. Out of the 50 respondents 88% were female and 12% were male. The table also shows that 70% of the respondents are undergraduates, 28% are post graduates and 2% of the respondents are professional degree holders.

TABLE -2 SHOWING AWARENESS OF VIRTUAL ASSISTANT AMONG THE GENERAL PUBLIC IN CHENNAI

The percentage analysis of awareness of virtual assistant among the general public in Chennai are given below in table 2

| SNO | PARTICULARS | FREQUENCY | YES | NO |
|-------|-------------|-----------|-----|----|
| 1 | MALE | 6 | 4 | 2 |
| 2 | FEMALE | 44 | 40 | 4 |
| TOTAL | | 50 | 44 | 6 |

INFERENCE

The above table indicates that 88% of the respondents are aware about the virtual assistant. Majority of the respondents are aware about the virtual assistant.

THE USAGE PATTERN OF VIRTUAL ASSISTANT DEVICE IN HOME LIFE OCCUPATION OF THE RESPONDENTS AND THE USAGE PATTERN OF VIRTUAL ASSISTANT

Table 3 chi-square test showing the usage pattern of virtual assistant device in home life H₀- There is no association between the occupation of the respondents and the usage pattern of virtual assistant of the respondents

H₁- There is an association between the occupation of the respondents and the usage pattern of virtual assistant of the respondents

TABLE-3 THE USAGE PATTERN OF VIRTUAL ASSISTANT DEVICE IN HOME LIFE

| | Value | Df | Asymp. Sig. (2-sided) |
|--------------------|---------------------|----|-----------------------|
| Pearson Chi-Square | 16.769 ^a | 12 | .158 |

INFERENCE

The calculated value 0.000 is lesser than the table value at 5% significance level. Hence H₀ is accepted and H₁ is rejected. This indicates that there is no association between the occupation of the respondents and the usage pattern of virtual assistant of the respondents

POST USAGE BEHAVIOUR OF VIRTUAL ASSISTANT DEVICE IN HOME LIFE GENDER OF THE RESPONDENTS AND POST USAGE BEHAVIOUR OF VIRTUAL ASSISTANT DEVICE

Table 4 chi-square test showing the post usage pattern of virtual assistant device in home life
 H0- There is no association between the gender of the respondents and post usage behaviour of virtual assistant device

H1- There is an association between the gender of the respondents and post usage behaviour of virtual assistant device

TABLE 4 GENDER OF RESPONDENTS AND POST USAGE BEHAVIOUR

| | Value | df | Asymp. Sig. (2-sided) |
|--------------------|---------------------|----|-----------------------|
| Pearson Chi-Square | 63.202 ^a | 9 | .000 |

INFERENCE

The calculated value 0.000 is lesser than the table value at 5% significance level. Hence H0 is accepted and H1 is rejected. This indicates there is no association between the gender of the respondents and post usage behaviour of virtual assistant device.

USERS' SATISFACTION ON THE SERVICES OF VIRTUAL ASSISTANT DEVICE IN HOME LIFE IN CHENNAI.

QUALIFICATION OF THE RESPONDENTS AND THE USERS' SATISFACTION ON THE SERVICES OF VIRTUAL ASSISTANT DEVICE

Table 5 chi-square test showing the users' satisfaction on the services of virtual assistant device

H0- There is no association between the qualification of the respondents and the users' satisfaction on the services of virtual assistant device

H1- There is an association between the qualification of the respondents and the users' satisfaction on the services of virtual assistant device

TABLE-5 QUALIFICATION OF THE RESPONDENTS AND USERS' SATISFACTION OF SERVICE OF VIRTUAL

| ASSISTANT | Value | Df | Asymp. Sig. (2-sided) |
|--------------------|---------------------|----|-----------------------|
| Pearson Chi-Square | 12.444 ^a | 12 | .411 |

INFERENCE

The calculated value 0.411 is lesser than the table value at 5% significance level. Hence H₀ is accepted and H₁ is rejected. This indicates that there is no association between the qualification of the respondents and the users' satisfaction on the services of virtual assistant device.

FINDINGS OF THE STUDY

From the above analysis it is inferred that there is no difference between the users of virtual assistant and the non-users of virtual assistant. It is clear that there is no association between the occupation of the respondents and the usage pattern of virtual assistant of the respondents, there is no association between the gender of the respondents and post usage behaviour of virtual assistant device, there is no association between the qualification of the respondents and the users' satisfaction on the services of virtual assistant device. Overall it can be concluded that there is no difference in the home users life after using the virtual assistant device.

CONCLUSION

Virtual assistances are very effect way to organize your schedule. Now there are many smart personal assistance applications available in the market for various device platforms. These new software applications are performing well than the smart phones. Virtual personal assistant are also reliable than the human personal assistant because, virtual personal assistants are more portable and you can use them anytime. They also have lot of information than any assistant as they are connected with internet.

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