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IMPEDIMENTS IN THE ADOPTION OF NEW TECHNOLOGY AMONG ELDERLY

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ABSTRACT

A Smartphone is a mobile phone that allows you to do more than just make and receive phone calls and text messages. Smartphones are computer-like in that they can access the Internet and run software programmes. Users interact with smartphones via a touch screen. Thousands of smartphone apps are available, including games, personal-use apps, and business-use apps.

The elderly have always had a lot of difficulties adopting new technology. However, as the world's population grows, seniors are increasingly adopting more digitally connected lifestyles. According to American research, more than half of older people who own cell phones now own a Smartphone, up from 23% in 2013. The percentage of seniors who own a smartphone varies greatly by age. Smartphones are owned by 59% of people aged 65 to 69, and 49% of people aged 70 to 74. This significantly decreases in the mid-70s and beyond. Previously, mobile phone applications could only make and receive calls and text messages. Modern phones, on the other hand, go far beyond their traditional functions and provide a diverse range of applications. It could be linked to self-management activities like instrumental daily living activities, increasing social contacts among older people to reduce loneliness, and expanding access to knowledge. It has recently been used to communicate with health experts, as well as to increase autonomy and self-care. However, the aforementioned pastimes remain the most popular among the elderly (Subramanyam, 2018).

INTRODUCTION

According to a YouGov survey, 67% of India's urban population cannot live without their smartphone, and the majority of them are between the ages of 60 and 65. In India, 11% of internet users are over the age of 55. However, data suggest that within six months of the pandemic, the growth of digital users for the 55+ age bracket is in the range of 25%-30% for various categories such as communication, medicine, commerce, entertainment, and so on. Technologies and services are critical for improving the elderly's quality of life (Westermeyer, 2020).

The benefit of technology for seniors is evident today and hence increased a number of seniors are adapting to easy elder tech to communicate and stay connected with family, friends, and the world. This device, however, can be quite useful for elders. Typically, these are created with the younger generation in mind, who are already tech-savvy and have grown up playing high-tech games and surfing the Internet. Phone function discovery and use are intuitive for such younger users; however, the senior population has several challenges when utilizing such devices. The small size of the device makes it difficult to grasp, and the text on the screen is too small and difficult to see. Furthermore, smaller keys and navigation controls make it difficult for them to use software interfaces, thus they may not find them appealing. The backlight time tends to be too short for their reflex time. The other issue was the intricacy of function operations, as well as a lack of comfort with touch sensitivity. As a result, there are a lot of dialing errors (also, because of failing to lock the (keyboard). Furthermore, the interface has many keys with distinct functionalities, which are confusing and difficult to memorize. Many of them find the devices to be annoying and even terrifying" (Subramanyam, 2018).

Given the widespread use of smartphones and their potential negative consequences, it is critical for researchers to understand smartphone usage and why it becomes difficult to advise proper preventive and corrective actions. Furthermore, researching older adults is critical because their life situation and usage are likely to differ from that of younger generations - and thus, different measures may be required. This paper is an exploratory effort to better

understand how older adults use their smartphones and the challenges they face in adopting it. In this sense, the outcome of the study will further enable extension workers or researchers to work towards fulfilling the needs of the elderly more effectively by organizing training programmes for them. The findings of the study will also help in designing smartphone training modules and self explanatory learning material on use of smartphone for the elderly.

METHODOLOGY

Population and Sample of the Study

The study's population consisted of elderly people who owned smartphones and lived in Vadodara. This study's quantitative data was gathered using a survey method. The study's sample included 95 elderly people from Vadodara. Purposive and snowball sampling techniques were used to select the study's sample.

Research Tool and Procedure of Data Collection

The investigator created a structured questionnaire to study smartphone use among the elderly. The questionnaire was distributed personally to the respondents. One hundred and ten questionnaires were distributed to the elderly in order to collect data. A total of one hundred questionnaires were returned, with ninety-five deemed appropriate for this study.

FINDINGS AND DISCUSSION

The findings of the study reveal that majority of the elderly (71.58%) were from the 60 to 70 age group, whereas twenty-five percent of the elderly were from the 71 to 80 age group. Little more than half of the (52.63%) elderly were male whereas forty-seven percent of them were female. It indicates more participation of the male elderly in the present study. The findings also show that twenty-nine percent of the elderly were having primary education, whereas more than one-fourth (28.42%) of them were graduates. It further provides a picture that the majority (60%) of the elderly were retired whereas forty percent of them were still working though they crossed their age of retirement. The data regarding income shows that twenty-seven percent of the elderly have a monthly income above 10,000.

Forty-seven percent of the elderly purchased smartphones themselves, whereas thirty-eight percent reported that their son or daughter purchased a smartphone for them. It is a good indication that a higher percentage of the elderly purchased smartphones for them. It shows that they can decide on purchasing the smartphone for them. Forty-seven percent of the elderly owning smartphone for more than three years. Forty-one percent of them own smartphones from 1 to 3 years whereas very few (11.58%) elderly own smartphones for less than 1 year. It is a good indication that higher percentages of the elderly have more than 3 years of experience in operating smartphones.

Table 1: Frequency and Percentage Distribution of the Elderly According to the Use ofInbuilt Application Features of Smartphone
(n=95)

Features	Use		Do not Use	
	f	%	f	%
Calling	93	97.89	2	2.11
Camera	83	87.37	10	10.53
Video	81	85.26	14	14.74
Video Calling	81	85.26	14	14.74
Flashlight	77	81.05	18	18.95
Calendar	73	76.84	22	23.16
Alarm	71	74.74	24	25.26
Sending text messages	68	71.58	27	28.42
Ring setting (vibrate, loud)	68	71.58	27	2 8.42
Calendar	66	69.47	29	30.53
Music	65	68.42	30	31.58
Sending picture messages(MMS)	49	51.58	46	48.42
Radio	49	51.58	46	48.42
Search tool like	46	48.42	49	51.58
Address Book	40	42.1	55	57.89

Games	33	34.74	62	65.26

The above table shows that calling (97.89%), camera (87.37%), video (85.26%), video calling (85.26%), and flashlight (81.05%) are the features that high majority of the elderly were using in their smartphone. The majority of the elderly were also using features on their smartphone suchas calendar (76.84%), alarm (74.74%), sending text messages, ring setting (71.58%), calendar (69.47%), and music (68.42%). Similar findings were reported by (Omolayo, 2018) in his study that voice calling, text messaging, taking photographs, and listening to the radio are the major activities the elders used their smartphones to perform.
William and Murugesh (2018) found 100% use for making phone calls, 100% for sending and reading SMS (short message service), 80% for checking the time, 76% for calculating, and 68% for setting alarms among the elderly.
It indicates that the elderly were using in build applications of smartphones such as calling, cameras, video, video calling, and flashlights. The findings of the study also highlighted that the elderly do not use Games (65.26%), Address Book (57.89%), Search Tool (48.42%), sending picture messages (51.58%), and Radio (51.58%) features.

The findings reveal that high majorities (94.74%) of the elderly were using WhatsApp, the Majority of them were using YouTube (76.84%), and Facebook (60%). It indicates that the majority of them use social media.
Omolayo (2018) revealed in their study that the majority of the elders used their smartphones for social networking such as Facebook, Instagram, and YouTube so they became more informed about their friends "activities, news, and status. William & Murugesh (2018) identify in their study that 64% for reading and send emails, 64% of the respondents for social media, 48% for surfing the internet, and 36% for making video calls.
A high majority of the elderly were not using an application such as BHIM (96.84%), Bharat pay (94.73%), Big basket (94.74%), Myntra (90.52%), Twitter (87.37%), Phone pay (86.32%), Telegram (84.21%), Online booking application like Redbus, Make my trip, IRCTC, Uber, GSRTC, etc. (82.10%), Flipkart (81.05%) and Paytm (80%). It indicates that payment and shopping applications were not used by the elderly. A probable reason could be that they do not have proper knowledge of how to use it and maybe they do not need to use it.

PURPOSE OF USING SMARTPHONE

The basic purpose of the phone is to remain connected with others. Hence, the elderly may use their smartphone most of the time to make a call and receive a call. The findings also revealed that the elderly were using smartphones sometimes for watching videos on YouTube, making and receiving video calls on WhatsApp, communicating with family members who live abroad through WhatsApp chats, listening to music on YouTube, and Radio, and remaining updated with local, national and international news and so on. Rosales and Ardevol (2019) in their study concluded that older people might consider the camera, gallery, and setting features more relevant than the younger generation do. Basic users mainly use smartphones for making calls and taking pictures. The elderly were using smartphones with less proposes to upload pictures on Instagram, play online games, and search activities for elderly in their local area, do online booking and shopping, download picture editing software, to make a video call on google meet, skype, Instagram and Twitter.

IMPEDIMENTS IN USE OF SMARTPHONES

More than half of the senior citizens (51.58%) faced more personal impediments while using smartphones whereas forty-eight percent of them faced fewer impediments while using a smartphone. A higher percentage of the senior citizens were having more than 3 years of experience in operating smartphones, hence they may face fewer personal impediments. The finding of the present study also revealed that the majority (67.39%) of senior citizens need help operating a smartphone. This indicates that they may lack knowledge and skills in the operation of the smartphone. Therefore, half of them may report more personal impediments.
The following personal impediments were reported by the elderly who use smartphones:
• Unable to understand how to make video calls on Facebook.
• Lack of knowledge to use online Booking applications. (Redbus, Make my trip, IRCTC, GSRTC, and Uber).
• Unable to update smartphone Application.
• Unable to understand new features of the smartphone.
• Lack of knowledge to use online Healthcare applications. (Arogyasetu, Medkart, and Apollo 24/7).
- Lack of opportunities for learning a smartphone.
- Not aware of the proper use of a smartphone.

The findings of the study portray that half of the senior citizens (50.53%) faced more technical impediments whereas

forty-nine percent of them faced less technical barriers while using a smartphone. It indicates that senior citizens faced personal impediments related to the lack of knowledge and skill in the operation of smartphones. Following impediments were faced by the elderly at a higher level:

- Mistake in choosing the key or written and tactile commands for the smartphone on the touch screen.
- Lack of detailed instructions.
- Complicated instructions arise during the use of applications.
- Cannot locate buttons on smartphone screens. (Like the back button and home button)
- Difficulty in reading due to the small font size of the content of the smartphone.
- Use of touch screens is difficult.
- Cannot tap properly due to leathery fingers.

It indicates that the elderly face technical impediments related to the use of a smartphone as a device. Navabi (2016) also reveals that older people have a generally negative attitude toward the use of mobile phones due to technology anxiety and the fear of working with new devices aging tends to make the selection of a specific button on the mobile phone difficult or make the use of mobile applications confusing and thus creates anxiety in the older adult. The majority (67.37%) of the elderly need help to operate their smartphone whereas thirty-two percent of them don't need help to operate their smartphone. Elderly need help to save their contact number (20.65%), download the applications (18.78%), browse the internet (18.78%), edit their number (15.69%), and check their SMS (15.49%). Very few of them need help to make a call (7.98%). Fifty-three percent of the elderly take help from their children; thirteen percent of them take help from their friends, whereas twelve percent of them take help from relatives, Neighbors (6.25%), themselves (5.36%), Caretaker/ helpers (4.46%). Few elderly take help from their Grand Daughter whereas were using use YouTube to learn smartphones by themselves.

CONCLUSION AND RECOMENDATION

The present study was conducted to highlight the use of smartphones among the selected elderly and to study the purpose of using smartphones among the elderly residing in Vadodara city.

The role of the smartphone in elderly life is to remove loneliness, make them independent, provide information, and improve communication. The main difficulties forthe elderly in the use of smartphones are financial limitations, limited sight, lack of interest, and lack of knowledge about how to use technological devices and their advanced functionalities (Westermeye, 2020).

The present study throws light on various purposes for which the elderly use smartphones. The most frequently used applications by the elderly were in-built applications of smartphones such as calling, cameras, video, video calling, and flashlights. The findings of the study also highlighted that the elderly do not use games, address books, search tools, sending picture messages, or radio features. The data also shows that a high majority of the elderly were not using an application such as BHIM, Bharat pay and Big basket, Myntra, Twitter, Phone pay, Telegram, Online booking application like Redbus, Make my trip, IRCTC, Uber, GSRTC, etc., Flip-kart and Paytm. It indicates that payment and shopping applications were not used by the elderly. It can be concluded from the findings of the present study that the overall purpose of using a smartphone by the elderly was more. As a result, if they are inspired and encouraged to learn online applications, they are more likely to use them in their life.

It also indicates that the elderly faced more personal/individual as well as technical/device-related impediments. They faced personal impediments related to a lack of knowledge to use online applications like payment, shopping, and booking applications. Mistakes in choosing the key or written and tactile commands for smartphones on the touch screen, use of touch screens, and lack of detailed instructions were the major technical impediments they faced while using a smartphone. It indicates that lack of knowledge and skills in the use of smartphones was the major personal impediments faced by the elderly.

The elderly suggested a training programme to learn about the smartphone. They want to learn how to send messages on WhatsApp. They want to learn how to use online applications like payment applications, shopping applications, and Booking applications. They also want to learn the basic features of the smartphone. The elderly want to learn how to delete unnecessary messages, photos, and videos. Hence, if the elderly were provided a learning module they were more likely to have higher usage of the smartphone.

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