Smartphone use among selected Filipino elderly

Mary Justine Clarise A. Trinidad & Abby Pauline M. Castillon
University of the Philippines, the Philippines

Abstract

This is a descriptive, qualitative study that aimed to discuss the beliefs, attitudes, motivations, and experiences of the elderly in using smartphones. Thirty purposively sampled Filipino elderly were interviewed, and data collected were examined through content analysis. Results revealed that Filipino elderly are generally satisfied with using smartphones as they perceive it to be important and useful. Their main reason for engaging in this technology is its capability to connect them with their loved ones, thus, their regular activities when using it are calling and messaging. However, despite the innovative features of smartphones, they are still contented with using mostly the call and messaging features of the device only. They also find touchpads challenging to use. Nevertheless, they are still willing to continue using it. As the elderly adopt smartphones, this study recommends for smartphone developers to consider producing those with physical features and software that are more user-friendly for the elderly. This may encourage the aging consumers to explore the other useful features of smartphones, which can keep them abreast with the advancing technology at present times, especially during this COVID-19 pandemic, digitization of public and private transactions, and other work-related tasks were strengthened in the Philippines.

Introduction

Due to globalization, technology continues to advance. Smartphones, as one among these technologies, provide a wide variety of services that can support and ease some common activities in everyday living, such as text messaging, writing emails, internet surfing, playing games, photography, and writing in calendars (Kurniawan et al., 2006). However, despite the numerous services that this technology provides, its use still entails both positive and negative effects on its users. Its drawbacks include reduced face-to-face interactions among people (Rotondi et al., 2017), possible visual blurring, dry eyes, and pain in the neck, back, and shoulder (Miakotko, 2017). Nevertheless, smartphones allow users to learn new things and have access to various materials online at any time. It can be used for searching information, and has an impact on the psychological mind of the users as it can be a means to escape reality in a good way—through playing games, reading electronic books, watching videos, among others. Using smartphones can serve as an instrument to relieve stress from a busy work life (Sarwar & Soomro, 2013).

Mary Justine Clarise Trinidad ✉ maamonoy1@up.edu.ph

With the numerous benefits offered by smartphones, more and more consumers engage in their use. A study about smartphone ownership in 40 different countries around the world including the Philippines shows that in 2015, 45% of Filipinos own a smartphone (Poushter, 2016). In 2019, this number grew as 86.8% of Filipino households were reported by the Philippine Statistics Office or PSA (2020) to be owning cell phones. Specifically, based on the statistics by Statista Research Department (2021), there are 14% of the overall Filipino population aged 55 and above who use the internet, assuming that this is through smartphones. This age group includes the elderly. The "elderly" is defined by the Organisation for Economic Co-operation and Development (n.d.) as people who are aged 65 and over. In the Philippines, they are considered those who are aged 60 and over under the Republic Act No. 9994, also known as the Expanded Senior Citizen Act of 2010. The terms "seniors", "elders" and "older adults" are also used to denote adults who are aged 60 and above.

The number of the elderly in the Philippines continue to rise over the years. According to the latest report of the PSA in 2015, there were 7,550,000 Filipino elderly, which is 7.5% of the total population.

This data, therefore, implies that in 2020, approximately 1,000,000 Filipino elderly owns a smartphone. From a home economics perspective, their attitudes towards the device, as well as their beliefs, motivations, and experiences in using it are important to explore. That is why in different parts of the world, the elderly's adoption of smartphones has already become an interesting topic among researchers.

Smartphones have a variety of features that can help improve the quality of life of the elderly in different areas like health care and independent living. As found in a study, the use of smartphones among this older group of people provides experiences of reduced isolation, closer ties to family and friends, simplified commerce, and a lot more (Fernandez-Ardevol, 2010).

In terms of motivation, in the study by Kurniawan et al. (2006) in the United Kingdom, it was noted that the main reasons for the elderly in using mobile phones were for emergency, security, and safety purposes. Renaud and Biljon (2010 as cited in McMurtrey et al., 2013) also identified the possible reasons for seniors in using smartphones, which are: social influence, safety, security, autonomy, relatedness, and usefulness. In addition, McMurtrey et al. (2013) analyzed different researches about the elderly's consideration to use smartphones, and reported the following as the reasons: enjoyment, self-expression, safety and security, self-actualization, relatedness, and freedom and autonomy; and because of usefulness, influence of other people, interesting features, and affordability.

Researches about the barriers and challenges of the elderly in using smartphones were also explored. According to Portz et al. (2019), older people want to adapt to new technologies, but they struggle in learning to use smartphones. They were found to struggle with their senses of touch, hearing, and reading in using these smart gadgets (Perissinotto, 2018 as cited in Lee, 2018). Meanwhile, Vaportzis et al. (2017), divided the elderly's barriers to using smartphones into categories: lack of instruction and guidance, lack of knowledge and confidence, health-related barriers, and cost. Smith (2014), also had the same conclusion that most seniors may have physical challenges in using smartphones and may need some assistance in learning to use these mobile phones. In addition, another study stated that aside from health-related issues, some of the elders lack comfort and familiarity in using the technology (Anderson & Perrin, 2017). Past research has shown that the capabilities of older people decrease as they grow old,

and the changes in their capability can affect them in using electronic devices like mobile phones (Roupa et al., 2010). Research also showed that many seniors are not comfortable using computer technology (McMurtrey et al., 2011), hence it is not surprising that they are uncomfortable using smartphones. It was also found that most mobile phones are not internally designed for seniors, but for younger users (McLead, 2009 as cited in McMurtrey et al., 2013; Subramanyam et al., 2018). The use of smartphones can therefore become frustrating and intimidating for the elderly (Subramanyam et al., 2018).

More and more studies on smartphone use continue to be conducted as the world also continues to advance its technology. However, unlike in foreign countries where studies on smartphone use among the elderly are abundant, there is a minimal study about this in the Philippines. It is necessary to explore this topic in the Philippine context, especially since before and during the COVID-19 pandemic, more transactions with public and private institutions were strengthened in the country (Villanueva, 2022), and this includes banking services, claiming of pensions, and online shopping. Elderly people should be empowered to be more productive and independent in doing various tasks that involve the use of smartphones. Thus, this study explored the use of smartphones among selected Filipino elderly. It describes their beliefs, attitudes, motivations, and experiences in using the device. Specifically, it aimed to answer the following research questions:

1. How does the Filipino elderly perceive the use of smartphones?
2. Why are they motivated to use smartphones?
3. What are their experiences in using the device?

Through the results of this study, the elderly, especially those who are just adopting their smartphones, may be assisted because they will be made aware of the common experiences of the other elderly who are using smartphones too. Smartphone developers may also be informed of the designs that they could consider in future smartphone developments that will be more elderly-user-friendly.

Theoretical Framework

This study is mainly based on the Theory of Planned Behavior (TPB) by Ajzen (2019). TPB is illustrated in Figure 1. The theory states that the beliefs—behavioral, normative, control—of individuals influence their attitudes towards certain behavior, their subjective norms, and perceived behavioral controls, which consequently influence their intentions to perform that behavior, and finally cause them to do it. In this model, behavioral beliefs are defined as the "subjective probability that the behavior will produce a given outcome or experience," normative beliefs as the "perceived pressure to engage in a certain behavior exerted by […] individuals or group […]," and control beliefs as the "control factor to impede or facilitate performance of the behavior […]" (para 1). The attitudes toward the behavior refer to the willingness to act a certain behavior. Other references view the person's beliefs and intentions to be dimensions of attitude (Evans et al., 2006, Pratkanis et al., 2014), but for this study, following the TPB, these factors are viewed separately from attitudes. With regards to the other variables presented in the model, the subjective norm is described as the perceived influence of other people or groups of people to act in a certain way, while perceived behavioral control is one's perceived capability of acting. Lastly, behavioral intention is the individual's inclination to do the action (Ajzen, 2019).
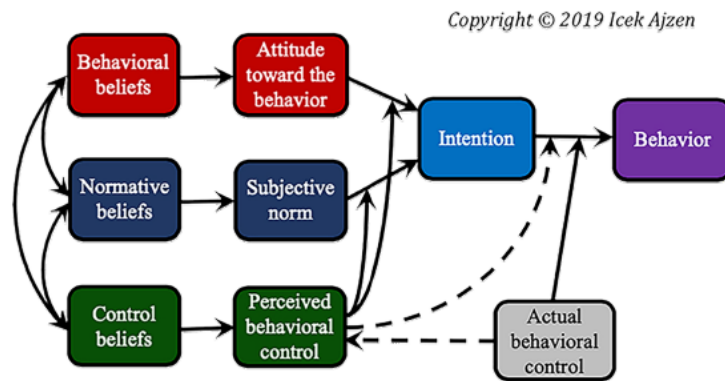
Figure 1   Theory of Planned Behavior Diagram (Ajzen, 2019)

In the context of this study, the behavior considered is the use of smartphones by the elderly. Based on the TPB, the researchers assumed that understanding the smartphone use of the elderly involves determining and understanding first their related beliefs and attitudes. Their beliefs are based on their opinions about the importance of using smartphones, their perceived risks of using them, while their attitudes focus on levels of satisfaction or dissatisfaction in using the device, and their intentions of continuing its use in the future. Meanwhile, their motivation is described as the internal and external factors—such as normative beliefs or influence of other people, and control beliefs or how they see themselves as successfully able to use smartphones—that drive them to use the device. Their attitudes and motivations then lead to explain their experiences, which involve challenges and other practices in using smartphones.

Aside from the TPB, this study is also guided by the Technology Acceptance Model or TAM by Davis (1989). TAM states that an individual's engagement in using technology is influenced by their perceived usefulness and their perceived ease of use of that technology. Perceived usefulness is one's belief in the technology's functional assistance, while perceived ease of use is the belief on the technology being effortless to use. Based on this model, this study analyzes the perceived usefulness of smartphones as part of the elderly's beliefs. On the other hand, the perceived ease of use is included in exploring their experiences in the initial and regular use of the device.

Methodology

This study is descriptive research, which used a qualitative research design. Qualitative data were extracted from the closed- and open-ended questions from a semi-structured interview. A purposive sampling technique was used to select 30 elderly Filipinos. The study focused on senior citizens in Quezon City who use smartphones. The elderly living in urban areas like Quezon City were investigated due to the rapid development of technology in urban areas. In the latest report by the Philippine Statistics Authority report in 2015, there are 851,214 senior citizens in the National Capital Region. Among the 17 local government units, Quezon City was recorded to have more than 300,000 Senior citizens.

As shown in Table 1, majority of the participants were males with a total of 16 participants (53.33%) while 14 participants (46.66%) were females. Majority of the participants were college graduates (53.33%) while the remaining were high school graduates (26.66%). Majority of them

were also aged between 60–65 years old (76.66%). The range of majority of the participant's monthly income was between Php 7,890.00 (30%) and Php 31,560.00 (30%). Meanwhile, Table 2 presents the smartphone used by the respondents, and the period they started using their smartphones. As shown, majority of the elderly use Android as a type of smartphone (73.33%). On the other hand, 23.33% have also been using their smartphones for only one to five years, while 43.33% of the respondents for six to 10 years, and 6.66% for more than 10 years.

Table 1   Demographic Characteristics of Filipino Elderly-Respondents

Characteristics	Category	f (n = 30)	Percent (%)
Sex	Male	16	53.33
	Female	14	46.70
Age	60–65 years old	23	76.70
	66–70 years old	5	16.70
	71–75 years old	2	6.70
Highest Educational Attainment	High school graduate	8	26.70
	College graduate	16	53.33
	Postgraduate	6	20.00
Monthly Income	Php 7,890–15,780	9	30.00
	Php 15,781–31,560	9	30.00
	Php 31,561–78,900	7	23.33
	Php 78,901–118,350	3	10.00
	Php 118,351–157,800	1	3.33
	Above Php 157,801	1	3.33

Table 2   Types and Period of Use of Smartphones among the Filipino Elderly Respondents

	Category	f (n = 30)	Percent (%)
Type of Smartphone	Android	22	73.33
	iOS	7	23.33
	Windows	1	3.33
Period of use	1–5 years	15	50.00
	6–10 years	13	43.33
	More than 10 years	2	6.67

To obtain data from the respondents, an interview guide was developed at first, which is available in both English and Filipino languages. It contains a mix of closed- and open-ended questions that asked for the respondents' demographic information, as well as their beliefs, attitudes, motivations, and experiences in the use of smartphones. The different parts of the instrument are as follow:

1. Letter of Consent—This part of the instrument explains the protocols of the study, such as its objectives, benefits and risks in participating in the interview, names of researchers and their contact information, and informed consent form.

2. Demographic Profile of Respondents—This first section in the interview guide contains closed-ended questions on the demographic information of the respondents, the type of smartphones, and the period of use of smartphones.

3. Beliefs of Elderly on Smartphone Use—This part asks questions about their opinions and beliefs about the importance and risks of using smartphones.

4. Attitudes of the Elderly on Smartphone Use—This section contains questions about their feelings and preferences related to using their smartphones.

5. Motivations of Elderly on Smartphone Use—This part generally asks about their reasons for using smartphones.

6. Experiences of Elderly on Smartphone Use—This section includes questions about their regular activities when using smartphones, and their experiences with ease of using the device.

7. Intentions of Elderly for Future Smartphone Use—This part generally asks for their willingness to continue using smartphones in the future. Based on the Theory of Planned Behavior, intentions towards a certain behavior are encountered first by an individual before their actual performance of the behavior (Ajzen, 2019), but for this study, questions about the respondents' intentions are put last because they are already engaged in using smartphones during the conduct of the study.

In collecting data, target respondents who are attending a Zumba session at the Quezon City Memorial Circle were invited for the interview after their activity. The informed consent was explained to them and their interview sessions were then set. Each interview session took up approximately 30 minutes. The collected data then were subjected to transcription and content analysis to determine patterns or themes related to the respondents' beliefs, attitudes, motivations, and experiences in using smartphones.

Throughout the conduct of the study, ethical considerations were performed by the researchers. No respondent was forced to participate in this study. They were fully informed of the protocols of this study, were given sufficient time to ask questions or clarifications before the interview, and were asked to sign an informed consent form. All the information and responses they provided were carefully recorded and anonymity was applied when reporting and analyzing the results. The recordings and database of responses are carefully stored. In terms of reporting, no results were manipulated and fabricated. All of these were based on the answers of the respondents from the interview. Ideas and information from related literature that were useful in data analysis were also cited appropriately.

Results and Discussion

The findings of the study are summarized as follows: the beliefs of the elderly in using smartphones, as well as their related attitudes, motivation, and experiences.

Beliefs of the Filipino Elderly on Smartphone Use

The results presented in this section provide the answer to the first research question, "How do the Filipino elderly perceive the use of smartphones?" Majority of the respondents (76.67%) believe that owning and using smartphones are important and useful. Many among them (63.33%) see smartphones to be useful for communication purposes. One of them said, "Maganda kasi madali na nako-contact mga tao sa ibang bansa" ("It is good, because I can easily contact other people who live in other countries." -Respondent #1). This result shows interestingly shows that the Filipino elderly value the connection with others and their loved ones, especially those in distant places. Aside from this response, some of them (16.67%) also believe that smartphones are an emerging necessity because of the advancing technology. In connection with the previous response, smartphones allow connection between persons from distant locations, and they can be very handy during emergencies, as explained by one respondent. However, despite the perceived usefulness of smartphones, there are still some

elderly who consider the use of smartphones to bring some risks to its users. These perceived risks are summarized in Table 3.

Table 3   Perceived Risks of Filipino Elderly in Using Smartphones

Perceived Risks	*f* (*n* = 30)*	Rank
There are no perceived risks in using smartphones.	13	1
Meeting new people online can be dangerous.	12	2
Downloading images and videos from the internet can be dangerous.	6	3.5
Vision can get more blurry.	6	3.5
Online advertisements can ask for personal confidential information.	4	5.5
Saving passwords in mobile applications can be hacked/ leaked.	4	5.5
No response	1	7

Note: *multiple responses

As shown in the table, 13 respondents see no dangers in using smartphones, but a majority (*n* = 16) still perceive smartphone use to pose some risks. These risks include using social media like Facebook where they can meet new people (*n* = 12), downloading malicious multimedia from the internet (*n* = 6), and getting blurry vision (*n* = 6). According to one respondent, "Pakiramdam ko tumataas grado ng mata ko" ("I feel like my eye grade is increasing." Respondent #14). Some respondents also find that advertisements can ask for personal confidential information (*n* = 4) and that saving passwords in mobile applications can be hacked (*n* = 4). However, despite these perceived risks, the respondents still said that the benefits that they see in using their smartphones outweigh these risks and that they still find the smartphone generally safe to use, also because they mostly use their smartphones for communication via call and text and they do not frequently use it daily.

Attitudes of the Filipino Elderly on Smartphone Use

This section of the results and discussion also present answers to the first research question, "How do the Filipino elderly perceive the use of smartphones?" With the previous results that majority of the respondents perceive smartphones to be useful for communication purposes (63.33%), the most liked features of the elderly were calls (*n* = 30) and messages (*n* = 28). Few of them even mentioned Facetime and iMessage which are built-in applications on iPhone. Very few of them said that they like other features related to using social media platforms such as Facebook and Viber (*n* = 3), although these tools also enable communication with others. These results show that the Filipino elderly are not very interested in the unique features of smartphones, but undoubtedly on call and text features, which are present even in the analog models of cellular phones. A possible reason for the limited liked features of smartphones is the presence of characteristics in their devices that hinder their good experiences in using them. According to the respondents, they dislike the following in their smartphones: slow system due to updates (*n* = 8), short battery life (*n* = 4), the complexity of using applications (*n* = 3), and too many advertisements when using applications online (*n* = 2). It is also noted that some respondents see no problems in using their phones (*n* = 13).

According to one of the respondents, "Mabilis ma-low bat pag nagda-download at pag marami nang naka-install na apps." ("My phone's battery gets drained fast when I make downloads and when there are many applications installed already." Respondent #10). Another respondent said "Minsan mag hang. Pag tumagal na nagha-hang na lang." ("Sometimes it hangs, the phone hangs when it is being used for longer period." Respondent #25). Some of the participants said that the smartphone tends to run slow if there is a system upgrade (*n* = 8). There were participants who also said that it was hard to type when sending a text message, because there

is no keypad, or if there is one, it is too small. One participant said, "Mabagal mag type lalo na pag mahaba sinasabi." ("It takes long to type especially if my message is too long." Respondent #24). These results can be supported by the study of Leung et al. (2012), which examined the impact of mobile phone design on users and concluded that smartphone software interfaces were not particularly elderly friendly mostly because of the users' diminishing cognitive abilities like speed and accuracy, information processing, and reaction time. In addition, in the study of Lin et al. (2009) the hardware interface of phones was examined, and it was found that the smartphone was a problem for older people, because of diminishing physical characteristics evidenced by the blurriness of vision and fewer finger dexterity.

Despite the perceived risks and disliked characteristics that the elderly have in using their smartphones, they still have a generally high satisfaction level in using them. Their satisfaction levels are presented in Table 4. As shown, the respondents were extremely satisfied (33.33%), very satisfied (33.33%), and somewhat satisfied (26.66%) with using a smartphone. Only few participants were somewhat dissatisfied (3.33%) and very dissatisfied (3.33%) mainly because they use smartphones for communication purposes only. According to one satisfied respondent, by using the smartphone, he has "more apps to download, [more] exploration of knowledge, and faster communication." (Respondent #10). Another respondent shared that he is satisfied because he finds the smartphone very functional, while another participant said that it is useful in communicating with family members.

Table 4   Level of Satisfaction in Smartphone Use Among Filipino Elderly

Level of Satisfaction	f (n = 30)	Percentage (%)
Extremely Satisfied	10	33.33
Very Satisfied	10	33.33
Somewhat Satisfied	8	26.66
Somewhat Dissatisfied	1	3.33
Very Dissatisfied	1	3.33

Motivations of the Filipino Elderly on Smartphone Use

The results presented in this section answer the second research question, "Why are the Filipino elderly motivated to use smartphones?" Table 5 shows the reason or motivation of the elderly to use a smartphone. Half of the respondents answered that they choose to own a smartphone because it is of good quality (n = 15) and is lightweight (n = 15). Aside from the overall quality and weight of the device, the price was also considered, whether the smartphone was received for free as a gift (n = 13), or bought at a cheap price (n = 10). When asked if they are willing to change the smartphone model/type they are currently using, some of them expressed their willingness but only if they have enough budget to do so. Meanwhile, only few respondents considered the influence of friends (n = 3) and unique features of the products (n = 6) in deciding to own and use one. These results show that the elderly own a smartphone mainly because of the durability and comfort that having the device brings, which supports their intention of using the device mainly for communication purposes to connect with their loved ones.

Table 5   Motivation of Elderly in Using Their Smartphone

Reasons for owning a smartphone	f (n = 30)*	Percentage (%)
The smartphone has a good quality	15	1.5

Reasons for owning a smartphone	*f* (*n* = 30)*	Percentage (%)
The smartphone is light and easy to carry.	15	1.5
Family members gave the smartphone as a gift.	13	3
The price of the smartphone is cheap.	10	4
The smartphone has effective advertisement	7	5.5
The model/type of smartphone is popular	7	5.5
The features of smartphones are wanted	6	7
Friends also use the same type of smartphone.	3	8.5
Others	3	8.5

Note: *multiple responses

Experiences of the Filipino Elderly on Smartphone Use

This section presents answers to the third research question, "What are the experiences of the Filipino elderly in using the device?" Table 6 summarizes the regular activities of the elderly when using their smartphone. As shown, all respondents (100%) use their smartphones for calling and messaging. They regularly use it for browsing social media like Facebook, Twitter, Instagram, Skype, and Viber (*n* = 24), setting their alarm clock (*n* = 23), and taking photos and videos (*n* = 22). On the other hand, half of them (*n* = 15) regularly watch videos on YouTube and Netflix, play games, and write reminders and notes. Lastly, few regularly use applications for productivity like word processing, spreadsheets, and slides (*n* = 11). Smartphones offer great benefits and convenience to the users, but based on the results, the Filipino elderly mainly use their smartphones for communication purposes. There are only few respondents who regularly use their smartphones for entertainment purposes like streaming videos, playing games, and watching saved videos/ movies. These results imply that the elderly use smartphones to keep up with the generation today in terms of using the basic features of the technology only, and not to explore the other benefits that they can get from using smartphones.

Table 6   Regular Activities of Filipino Elderly when using Smartphones

Features of Smartphone	*f* (*n* = 30)*	Rank
Calling	30	1.5
Messaging	30	1.5
Browsing social media accounts	24	3
Setting alarm clock	23	4
Taking photos and videos	22	5
Writing appointments in calendar	18	7
Browsing the internet other than social media	18	7
Watching videos	18	7
Playing games	15	10.5
Writing reminders and notes	15	10.5
Working by using word processing, sheets, and slides applications)	11	12
Others	1	13

Note: *multiple responses

Table 7 presents the elderly's experiences with ease of using smartphones. With regards to their regular activities, which are calling and text messaging, the respondents were also asked if they have any difficulty in performing these behaviors, especially during the initial period of usage. As shown in the table, majority of the respondents did not have difficulty in calling (80%) and text messaging (60%). More than half of them also did not need any assistance during their

initial use of the device (53.33%), and even in their regular use of it (86.66%). These results imply that the elderly generally did not find smartphones difficult to use. However, one of the respondents said, "Wala naman akong problema sa pagtawag basta siya yung tatawag" ("I don't have any problem in calling as long as that person will call me." Respondent #24). This response shows that the respondent finds ease in using a smartphone, but only when she's taking the call and not making it.

Table 7   The Elderly's Experiences on Ease of Using Smartphones

Experiences	*f* (*n* = 30)*	Percentage (%)
Calls are easily made and accepted.	24	80.00
Text messaging is easily done.	18	60.00
Assistance was needed during the initial use of smartphones.	14	46.67
Assistance was needed in the regular use of smartphones.	4	13.33

Note: *multiple responses

In their initial use, although 60% of the respondents found text messaging to be done with ease, there were still 40% who had difficulty. According to these respondents, they were challenged composing messages because of some issues regarding the keypad. Some of them said, "Nahihirapan ako sa pag- text, wala kasing keypad" ("I find it difficult to send a text message because there is no keypad." Respondent #21), and "Hindi ako nadalian sa pag-text, maliit yung keypad" ("It is not easy to send messages because the keypad is small." Respondent #1). This is connected to their other experience, which is to ask for assistance from their family when using their smartphones (46.67%). The results show that some elderly are having difficulty using the touchscreen of their smartphones, thus, their perceived ease of using smartphones is low.

Some respondents did not seek any assistance from others when using smartphones initially (53.33%) and regularly (86.66%). According to them, they were able to learn to use the device by studying the manual that comes along with it. One of them said "Nung una nagpaturo kung paano tumawag at mag-text, the rest ako na" ("At first I asked for assistance on how to make a call and to send text messages; then the rest I learned it on my own." Respondent #11). This result is consistent with the results of the research in England by Leung et al. (2012), that elderly individuals were found to learn to use mobile devices by reading the manual and not via trial and error, unlike the youth. However, in this current study, the respondents also said that sometimes they ask for help from someone especially when they forget how to use some features of their smartphone. As one of them shared, "Hanggang ngayon nagpapaturo ako basta kapag hindi ko alam gamitin papaturo ako" ("Until now, I ask for assistance as long as I don't know to use a certain feature." Respondent #19).

Intentions of the Filipino Elderly for Future Smartphone Use

This last section of the results and discussion does not directly answer any of the research questions, but it provides an overview of the sustainability of smartphone use among the Filipino elderly. With the previously reported high levels of satisfaction among the Filipino elderly in using smartphones, majority of the respondents (80%) also expressed that they are still willing to use smartphones in the future. Only few of them (20%) said they do not see themselves using it again, because they still preferred the basic phones. One of them said, "Hanggang ngayon may nagtuturo sa akin gumamit dahil ako ay nahihirapan sa paggamit." ("Until now I asked for assistance because I find it difficult to use." Respondent #14). In the study of McMurtrey et al. (2013), it was shown that the motivation and obstacles associated with technology use are correlated to each other in influencing the adoption of smartphone usage among elderly. Based on the results that have been presented previously in this study, one of the motivations for using smartphones is having a device for communication, however, some participants find the keypad or the keyboard on the screen small for their fingers. This

response showed that since the respondent experiences challenges in using the smartphone, it affects the level of their satisfaction in using the device. Nevertheless, 33.33% of the respondents are still willing to explore changing the model of their smartphones in the future if they have a budget. This shows that they are open to having new experiences in using smartphones, which is another evidence of their interest to continue using such technology.

Conclusion

The selected Filipino elderly perceive smartphones to be important and useful generally because of how the device allows them to connect and communicate with their loved ones especially those in distant places. However, despite this benefit and their high satisfaction levels in using smartphones, they still find it challenging to type texts because of the phone's keypad characteristics. The elderly respondents also do not maximize the use of the smartphone as there were only few among them who use other features of smartphones aside from call and text messaging. In general, their use of the device is limited to the basic features of mobile phones.

Recommendations and Implications of the Study

This study presents that the elderly struggle in creating text messages because of the smartphone's keypad characteristics. Based on this, the study recommends for smartphone developers and manufacturers to design smartphones suitable for the elderly. Such need to be made, readily available, and affordable for the elderly, especially they are conscious of the prices of smartphones. For those companies developing smartphones, they are recommended to consider designing phones that have features like easily changing the format of the keyboard or adjusting the text and display size of the application. Additional features must likewise include Talkback, which provides spoken feedback that can be very helpful to the elderly with low vision, and an offline assistant that can help the elderly to use their smartphone. For family members, this study suggests an additional awareness of the elderly's usage of smartphones. With increased awareness, they will be able to provide more assistance to their elderly family members. For the elderly, this study recommends that they explore the other features of smartphones aside from calls and messaging. Many features of smartphones can offer them more productivity and increased wellbeing.

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