

Older Persons' Utilisation of Mobile Phone: Evidence From Two Municipalities in Ghana

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The study aimed to unearth older persons' use of mobile phone. There is inadequate knowledge on the extent of mobile phone usage by older adults, the areas in their lives that the technology has been beneficial, and the concerns they have with the use of the device. The study was conducted in two municipalities in the central region of Ghana. Technological Acceptance Model (TAM) underpinned the study of the older persons' use of the new technology. The descriptive survey followed the tenets of the positivist paradigm in data gathering and analysis. Questionnaire was employed for the data collection, after ensuring its validity and reliability. Descriptive data analytical tools were employed for the data analysis. Results disclosed that older persons' frequent use of mobile phone is mainly for making and receiving calls, displaying date and time, and listening to news. Per the results, the use of the technology has been a monumental benefit to the older persons' personal, religious, and social lives. To help older persons to overcome the concerns they have with the use of mobile phone and for them to derive maximum benefits from it, stakeholders ought to intensify education on mobile phone use as well as improve their competence in the use of the device.

Keywords: older persons, technology, mobile phone, technology acceptance model and municipality

Introduction

The world has been experiencing increased aged-population, although the growth of older adults' population is a global issue and it is said that the development would be uneven throughout the world. It was estimated that the percentage of growth of the older people over 65 years, considering the world's population between 2000 and 2025, would be 17% for sub-Saharan Africa, 47% for the Middle East, 79% for Asia (excluding Middle East), and 82% for Latin America and the Carribean (Wong & Palloni, 2009). Also, in 2010, it was projected that, by the year 2050, the number of older people would increase from 524 million to 1.5 billion, with the greater increase in developing countries (WHO, 20105a). From these projections, one would not be far from right in averring that in the current year, 2021, the older adult-population is high. This draws attention to the fact that the older-population is such a substantial category of the population that society ought to be concerned about how they utilise technology in their daily lives.

In the turn of the century, older adults started to develop intense and positive attitude towards technology (White & Weatheral, 2000). Via technological development, mobile phone has become part and parcel of human lives; it has undoubtedly become the widely used technology device (Eidan, 2016). The arrival of

mobile phone has greatly transformed telecommunication and people's interactions have astonishingly improved (Nasir, Hassan, & Jomhari, 2008). As the society has become tech-savvy, the seeming digital divide between older and younger adults is narrowing (Wallace, 2013). Older persons, as their younger counterparts, use mobile phones. The older adults also have more digitally connected lives (Erickson Mobile Report cited in Gramel & Sanhi, 2020). Heinz, Martin, and Yearns (2013) contend that older adults tend to learn and use technologies that seem to have value in sustaining their quality of life. This is consistent with Mitzner et al.'s (2010) assertion that technology is relevant to older people as it contributes to increasing their independence and improving their quality of life. Boulton-Lewis, Buys, and Lovie-Kitchin (2006) discovered that adults were eager to learn technology skills and were particularly enthused to use these skills when they realised the need for it. A study showed that between 2013 and 2017, smartphone ownership, for instance, increased by 24% in adults over 65 years (Nash, 2019). This signals the older persons' use of the mobile telephony to stay in touch and hook on with people they need in life.

Various purposes have been attributed to the older persons' use of mobile phone. A study was conducted to ascertain mobile phone devices and services for the elderly. It emerged that the elderly used and had strong views on the features of mobile phones (White & Weatheral, 2000). Briede-Westermeyer, Pacheco-Blanco, Luzardo-Bricenco, and Perez-Villalobos (2020) gauged older people's views on the usefulness, satisfaction, and ease of use of mobile phones. The authors found that the older adults were satisfied with the use of mobile phones.

Mobile phones have several functions that help users including older persons. Mobile phones are usually used to make and receive calls, send and receive mails, send and receive messages (SMS, Whatsapp), as alarm and reminder, diary and others (Chen, Chen, & Tsang, 2013). Nowadays, most mobile phones have functions such as address book, MP3 player, video player, and camera. The functions on mobile phones also aid in accessing the internet to conduct research and perform many other tasks. Older persons may utilise mobile phones for varied purposes. Delello and McWhorter (2017) found that older adults used mobile devices to enhance their social networking, which made them felt informed socially. Mobile phone also helps older adults to build a sense of connectedness which further improves their pre-existing social connections (Heo & Lee, 2013). At that stage of life, the need for older persons to stay in touch with family and friends is highly needed as they may require the latter's assistance at any time. It is also observed that mobile phone is a memory aid for compensating age-related memory decline. Older persons tend to experience a deterioration in mental domains like reasoning, processing speed, memory, and executive function (Deary et al., 2009). Mobile phone then becomes a viable means of recalling and remembering what to do such as taking meals, drugs or honouring an appointment. According to Plaza, Martin, Martin, and Metrano (2011), the roles of mobile phone entail appointment reminder, alarm, and address book, which can aid older adults to plan and perform activities.

Mobile phone is also used to provide means of entertainment and to relieve boredom. The audio-visual displays and game functions of mobile phones offer entertainment mental activities to older adults (Chen et al., 2013). Besides, mobile phone as a technological device has the capacity to offer timely interventions to help older persons to keep healthy and independent for longer life (Geraedts, Zijlstra, Bulstra, & Stevens, 2014). It is a means through which health information and request could be made for the benefit of this category of the population. This technology could better the lot of older adults, improve their quality of life, and enhance their chances to live for long (Orpwood, Chadd, Howcroft, & Sixsmith, 2010). However, too much use of the

handset has its downsides. A study by Grewal and Sahni (2020), for instance, discovered that addiction to smartphones had a negative reaction time on the elderly population. The addiction had undesirable and unwelcome effects on the reaction time of older persons.

Rationale of the Study

The use of mobile phone by both the young and the old is no longer a luxury, not even in developing economies due to its indescribable and indispensable roles in people's life and activities. When mobile phone emerged as a means of communication, a few decades ago, the mentality was that it was meant for the "haves", and not the "have nots" as well in the society. Especially in a developing economy like Ghana, many were those who thought that it was meant for the middle-class and upper-class individuals and families. In a matter of years, both the young and the old are amazingly and immensely using it for varied reasons. Literature is, therefore, replete with studies on the use of mobile phones by all groups of people such as the youth, the younger adults, and the older adults. Nonetheless, the extent to which mobile phones aid to connect them to their cronies and factors influencing the usage or non-usage of mobile phones among the older adults does not seem to have been extensively studied, especially those in the non-urban communities. The study then was fashioned to achieve the following objectives:

1. To determine the extent of older persons' uses of mobile phone.
2. To establish the association between socio-demographic features and frequency of older persons' use of mobile phone.
3. To examine the aspects of older persons' lives that mobile phone has been beneficial to.
4. To identify the functions on mobile phone that the older persons usually use.
5. To discover concerns the older persons have with the use of mobile phone.

Theoretical Basis

Technology Acceptance Model (TAM) is the theory deemed fit to undergird the survey. TAM is a theory that predicts and elucidates technology usage behaviour. The theory has two main components, which are "perceived usefulness" and "perceived ease of use", that are essential bases of systems usage and predict attitude towards the usage of the system (Davis, 1989). In relation with perceived usefulness is that people's acceptance improves when they become aware of the benefits of the technology (Eisma et al., 2004; Selnym, 2004). It is essential to realise that acceptance is not directly related to the existence of benefits, but instead, the awareness of the benefits by the person using the technology (Mitzner et al., 2010). The older persons' acceptance and usage of mobile phone could be contingent on its perceived usefulness and perceived ease of use of the mobile device.

Methods and Materials

The focus of the study was on mobile phone usage by older persons in the Effutu and Agona Municipalities in the central region of Ghana. As a quantitative study, descriptive survey design was employed to guide the data collection and analysis. The approach enabled the researcher to gather a large set of data to describe older persons' use of mobile phone in the municipalities.

The study targeted older adults who were 60 years or more, at the time of the survey. This is in line with Zainal, Ahmad, and Razak's (2015) assertion that being 60 years is the cut off point for adults or refers to older

adults. The inclusion criteria were being 60 years, possessing a mobile phone and resident in either of the municipalities.

The self-designed questionnaire was administered on the respondents to garner data to answer the research questions. The instrument was developed from the items gleaned from the extant literature on older persons' usage of mobile phones. The instrument was pre-tested prior to its administration to collect data for the main study. From the pre-testing, the items that seemed unclear and immaterial were deleted when attention was drawn to them. Four trained assistants, two each, assisted in the data gathering in the municipalities. Of the 651 questionnaires administered and retrieved, 554, constituting 85%, were properly filled and found usable for the study.

The data gathered were screened, edited, and entered into IBS SPSS Version 25 before analysis. The statistical tools employed for the data analysis include frequency and percentages, mean and standard deviation, and chi-square. The results are presented in only tables.

Study Outcomes

This section of the write-up presents the outcomes of the study on the older persons' usage of mobile phone in the two municipalities. The presentation covers some socio-demographic information about the study respondents and the main objectives of the research.

Table 1

Socio-demographic Information

Variable	Response	Frequency	Percent (%)
Sex	Male	317	57.2
	Female	237	42.8
		554	100.0
Age groups	60-65	238	43.0
	66-70	146	26.4
	71-75	69	12.4
	76-80	68	12.3
	Above 80	33	5.9
		554	100.0
Marital status	Married	231	41.7
	Divorced	112	20.2
	Separated	67	12.1
	Single	63	11.4
	Widow	81	14.6
		554	100.0
Level of education	No formal education	99	17.9
	Basic education	187	33.7
	Secondary education	202	36.5
	Tertiary education	66	11.9
		554	100.0
Employment status	Self-employed	202	36.5
	Paid job	126	22.7
	Not working	226	40.8
		554	100.0

Source: Field data (2021).

The results on the sex distribution of the respondents indicate that the male older adults slightly outnumbered their female counterparts in the survey. More male older persons participated in the study than the females. It is also observed that the majority of the respondents were between 60 and 70 years while the minority were above 80 years. Thus, a disproportionate chunk of the respondents is the young-old (60-70 years), followed by the middle-old (70-80 years) and then the old-old (more than 80 years). These categories of older persons may have varied experiences in the use of the mobile telephony. The results also indicate that although over 40% of the older persons who participated in the study are in marital relationship, the majority of them were either separated, divorced, single, or widowed. This implies that the majority of the older persons did not have spouses at that stage in their lives. It is worthy to note that the majority of the respondents had formal education, which could be of immense help to them in the use of mobile phones for varied purposes. Further, the majority of the respondents were doing some form of job, which could earn them money, part of which could be used to purchase, use, and maintain their mobile phones to meet their needs.

Table 2

Use of Mobile Phone

	Frequency	Percent
Do you have mobile phone?		
Yes	554	100
No	0	0
How many mobile phones do you have?		
One	465	83.9
Two	72	13.0
Three	17	3.1
How long have you used mobile phone?		
Less than 5 years	64	11.6
6-10 years	251	45.3
More than 10 years	239	43.1
How frequently do you use the mobile phone(s)?		
Once a while	97	17.5
Almost all the time	325	58.7
Every time	132	23.8

Source: Field data (2021).

Obviously, all the respondents had mobile phone(s) as it was a major criterion for inclusion in the study. The results further portray that a disproportionate chunk of the respondents (83.9%) had one mobile phone or handset while only 13% of them had two mobile phones. It is only a negligible 3.1% of the older persons that had three mobile phones each. The result is not surprising that, most of the older persons, most of whom were not in active employment and had reduced social and professional activities, were having a mobile phone each. An older person possessing one mobile phone may be sufficient for his/her daily activities.

The results also demonstrate that a vast majority of the older persons had used mobile phones for more than five years. More than 45% of them had used mobile phone for between six and 10 years and 43.1% had used the technology for more than a decade. The results mean that most of the respondents started using phone while they were in active life. It is just about a tenth of the respondents that may have started using the technology in their later years.

The results further show that more than half of the respondents use their mobile phones almost all the time while about a quarter of them use their handsets every time. Cumulatively, over 80% of the older adults use their handsets frequently to satisfy their needs. Less than 20% of the respondents use the mobile phones once a while. It is, therefore, inferred that the majority of the older persons frequently use their handsets. This finding evinces a high level of acceptance of mobile phone consistent with the tenets of the technology acceptance model. The older adults had a high perceived use of the mobile telephony. Notwithstanding, the finding is contrary to Sixsmith's (2013) discovery that older adults feel reluctant to adopt new technologies which have the capacity to better their life. It is also contrary to Wallace's (2013) observation that older adults make infrequent use of mobile phones. The plausible explanation of the differences in the findings of the present study and that of Sixsmith (2013) and Wallace (2013) may be due to differences in time and space.

The study consequently sought to examine the association between socio-demographic variables and frequency of use of mobile phone by older persons. The outcome of the analysis is presented in Table 3.

Table 3

Link Between Socio-demographics Variables and Frequency of Mobile Phone Use

Variable	Frequency of mobile phone use			χ^2	p-value
	Once a while	Most of the time	All the time		
Sex					
Male	55	197	65	4.973	0.083
Female	42	128	67		
Age group					
60-65	22	137	79	54.957	0.000
66-70	37	85	24		
71-75	6	51	12		
76-80	17	37	14		
Above 80	15	15	3		
Educational attainment					
No formal education	32	55	12	27.540	0.001
Up to basic education	24	121	42		
Up to secondary education	30	112	60		
Up to tertiary education	11	37	18		
Marital status					
Married	27	142	62	33.540	0.000
Divorced	25	68	19		
Separated	7	35	25		
Single	12	43	8		
Widow	26	37	18		
Working status					
Yes	19	97	40	4.280	0.118
No	97	325	92		

Source: Field data (2021).

The results, as shown in Table 3, depict that in terms of socio-demographic features, age, education, and marital status had significant association with frequency of use of mobile phones by older persons. Thus, age had an association with frequency of use of mobile phone ($\chi^2 = 54.957$; p -value = 0.000); level of educational attainment had significant association with frequency of use of mobile phone ($\chi^2 = 27.385$; p -value = 0.001);

and marital status had a significant relationship with frequency of mobile phone use ($\chi^2 = 33.540$; p -value = 0.000). However, sex of respondents did not have significant association with frequency of use of mobile phone ($\chi^2 = 4.974$; p -value = 0.083) so as working status ($\chi^2 = 4.280$; p -value = 0.118).

Table 4

Purposes of Using Mobile Phone

I use my mobile phone(s) for	Yes (%)	No (%)
Making and receiving calls	554 (100)	0 (0)
Text messaging (SMS, Whatsapp, etc.)	215 (38.8)	339 (61.2)
Sending and receiving emails	95 (17.1)	459 (82.9)
Listening to news	297 (53.6)	257 (46.4)
Playing music	203 (36.6)	351 (63.4)
Playing games	75 (13.3)	479 (86.7)
Watching videos	74 (13.2)	480 (86.8)
Calculating	155 (27.6)	399 (72.4)
Emergencies by pressing the panic button	38 (6.9)	516 (93.1)
Alarm and reminder	162 (29.3)	392 (70.7)
Displaying date and time	425 (76.7)	129 (31.3)
Keeping address(es)	77 (13.9)	477 (86.1)
Diary	44 (7.7)	510 (92.3)

Source: Field data (2021).

The results, as presented in Table 4, obviously reveal that all the respondents use their mobile phones to make and receive calls. Unequivocally, the principal function of the handset is for making and receiving calls; it would have, therefore, been astounding and unthinkable, if any of the older persons did not use the handset for that purpose. The finding tells how widely the older persons use mobile phone to communicate with significant others in their lives. Gartner (2014) found that mobile phones were a leading means of communication around the globe with well over half of new sales in 2013. Mobile phones have enhanced older adults' communication with their family members and friends, and have enriched their personal interest including checking various healthcare related information (Sabramanyam, Singy, & Raut, 2019).

The next most widely use of the mobile phones by the older persons was checking date and time. A colossal 76.7% of the older persons use their mobile phones also to check date and time. Mobile phone seemingly is taking over the use of calendar and watch in checking date and time by the older persons. This is probably because calendar and watch may not always be with them at anytime, anywhere as mobile phone could be. As older persons who may need time to fulfill personal and social demands, mobile phones are immensely aiding in that respect.

The results also depict that the older persons seem to make good use of the radio function on the handset. This is because a whopping 53.6% of the respondents used their mobile phones also to listen to news. The various radio stations in Ghana, especially those that broadcast in the local dialects, are apparently assisting older persons to be abreast of current happenings in the country and elsewhere. The older persons also seem to comfortably use their handsets to play music. Most mobile phones have the function that users utilise to play music of their choice.

However, most of the older persons do not use their mobile phones to send and receive mails; play games, watch videos, keep addresses; serve as diary and for emergency conduit to access health service. The finding on

the very limited use of mobile phone to access health information is not in line with a study finding that older adults tend to use mobile phone in emergency situations (Mikkonen, Vayrynen, Konen, & Heikkila, 2002).

Generally, it is realised that the older persons had limited use of the numerous functions on the mobile phones. This is consistent with the finding of a study conducted in Hong Kong that the elderly considered the basic functions of their mobile phones as vital in their life (Chen et al., 2013). Similarly, older adults have been observed to have limited use of mobile phones besides call and SMS (Turel, Serenko, & Bontis, 2006). The limited use of mobile phone may reduce the benefits of the device for older persons.

Table 5

Benefits of Using Mobile Phone

	Not beneficial (%)	Slightly beneficial (%)	Moderately beneficial (%)	Highly beneficial (%)	Extremely beneficial (%)
Personal life (be in touch with family and friends)	7 (1.3)	32 (5.8)	44 (7.9)	322 (58.1)	149 (26.9)
Entertainment (keeping you informed and entertained)	228 (41.2)	121 (21.8)	78 (14.1)	95 (17.1)	32 (5.8)
Health (providing useful information, keeping you in touch with health staff)	260 (46.9)	86 (15.5)	76 (13.7)	80 (14.4)	52 (9.4)
Religion (getting religious information and keeping in touch with members of faith)	115 (20.8)	102 (18.4)	81 (14.6)	177 (31.9)	79 (14.3)
Business (giving and receiving business and related information)	304 (54.9)	132 (23.8)	64 (11.6)	45 (8.1)	9 (1.6)
Social/communal (develop and maintain social relations)	144 (26.0)	150 (27.1)	133 (24.0)	93 (16.8)	34 (6.1)

Source: Field data (2021).

The results in Table 5 point out that the use of mobile phone has been awesomely beneficial to the personal life of the older persons. This stems from the fact that 7.9% of the older persons considered mobile phone to be moderately beneficial to their life, 58.1% regarded it as highly beneficial to their personal life, and 26.9% rated it extremely beneficial to their personal life. Thus, the majority of the respondents reckoned the invariable role that mobile phone is playing in their personal lives.

The results also reveal that the older persons regarded mobile phone to be beneficial to their religious life. The results disclosed that 14.6% of the older persons rated the device as moderately beneficial to their religious life, 31.9% considered it highly beneficial to their life, and 14.3% regarded it extremely beneficial to their religious life. A vast majority of the older persons acknowledge how the technological device helps them to stick to their faith.

For social or communal living, mobile phone has been somehow useful and beneficial to the older persons. This is based on the fact that a little over 50% of the older persons believed that mobile phone has been helping them to develop and maintain social relations with people in their communities (Chen et al., 2013). Mobile phones are useful for social relationship and help to provide a sense of safety and accessibility. As Delello and McWhorter (2017) discovered, older adults used mobile devices to get connected to others to make them socially informed. The mobile telephony helped them to build a sense of social connectedness.

On the contrary, per the results, the older persons do not reckon mobile phone as being much beneficial to them with respect to entertainment, health, and business. For instance, less than 40% of the respondents rated mobile phone being moderately to extremely beneficial in providing them entertainment. Although a good of them indicated that they used mobile to play music, what they derive from the handset was not enough for their

enjoyment. Similarly, less than 40% of the respondents rated mobile phone as moderately to extremely beneficial in satisfying their health needs. Mobile phone as a technology is reckoned to play critical role in health care, yet that is not the case for the older persons in the study area. Most of the older persons do not seem to utilise the handset to access health information and/or communicate with health professionals. This situation contradicts Sabramanyam et al.'s (2019) postulation that mobile phones have enriched older adults' personal interest including checking various healthcare related information. Regarding mobile phone being beneficial to the business of the older persons, less than a third of them rated it to be moderately to extremely beneficial to them. This may probably be the case as most of the older persons are not in active working life and those who are working may not necessarily consider their work as a business in the right sense of the word.

Table 6

Difficulties Faced in Using Mobile Phone

	N	Mean	SD
Layout and design of the phone	554	3.07	1.33
Too many features/functions on it	554	3.16	1.29
Skills in using it	554	3.15	2.03
Too many unsolicited messages	554	3.42	1.23
High cost of using and maintaining it	554	3.10	1.24
Unstable network/connectivity	554	3.12	1.39
Disturbances of fraudsters	554	3.08	1.38
Overall		3.16	1.41

Source: Field data (2021).

The results displayed in Table 6 disclose that the older persons have some challenges with the use of mobile phone. The mean of means (3.16) is slightly above the mean of determination (3.0), signaling that, in general, the respondents had some issues with the use of mobile phone. In order of magnitude, the incessant and ceaseless unsolicited messages sent to mobile phone users by service providers and others are a nuisance to the older adults. This item had the highest mean of 3.42 with a standard deviation of 1.23. The next reservation the older persons had about the use of mobile phone is the many features or functions on it. This issue had a mean of 3.16 with a standard deviation of 1.29. This insinuates that the respondents were uncomfortable with the many features on the phone, most of which they do not use.

The results further portray that the skill in using the phone and that of the functions was a challenge to the older persons. The respondents seemed to lack the know-how to operate the device and make full and efficient use of the functions that come with it. With a mean of 3.15 and a standard deviation of 2.03, most of the older persons complained of inadequate skills to use the mobile device. This finding corroborates the assertion that as compared to younger adults' access to and ability to efficiently use technology, older adults are not there (Friemel, 2016; Pearce & Rice, 2013). Kumae, Ureel, King, and Wallace (2013) also found that the elderly usually possess lower levels of skills and competent use of technology in their daily activities. In developing economies, the older persons tend to have less access to technology as well as less digital skills. They consequently make limited use of the technology they possess.

The results also indicate that the older persons had issues with high cost of purchasing, using, and maintaining mobile phones. At that stage in life, where most of them are not in fully paid employment, they seemed to find the cost of using mobile phones high. In addition, the older persons were worried about the

disturbances of fraudsters who call their numbers with all sorts of tricks. Lastly, the layout and designs of mobile phones were an issue for a good portion of the respondents. It does not seem to suggest that the needs and demands of older adults are given adequate attention by manufacturers of mobile phones.

Conclusion

The outcomes of the survey unveiled that older persons have greatly embraced mobile phone as a viable means of getting in touch with people and to satisfy their personal curiosity. Socio-demographic variables like age, education, and marital status significantly related to the frequency of older persons' use of mobile phone. Mobile phone usage has been phenomenal and inevitable in the personal life of the older persons. The handset has also been beneficial to the older persons' religious and social lives. It is greatly aiding them to interact with family and friends. In spite of the three areas that mobile phone use has been very beneficial to the older persons, the handset is yet to make monumental impacts on the health, entertainment, and business lives of the same category of the population. Most importantly, mobile phones are yet to aid to improve health care services for older persons in the municipalities. The older persons also voiced out some concerns regarding their use of mobile phones, especially inadequate skills in using the device and some of its functions. There is, therefore, the need for stakeholders to increase the technology skills of the older adults to enable them to take full advantage of mobile phone to meet their personal, religious, social, and health needs. The need to help increase the older populations' tech-savvy to enable them to improve their use of mobile phone is highly recommended. This would help them to acquire necessary skills to use the functions on the device to be able to record and play voice message and also to engage in virtual communication to better their life. There is the urgent need for more and intensive education on the use of mobile phone for it to be more engrained in the daily lives of the older persons. Further studies can (i) compare older persons in the rural, semi-urban and urban communities use of mobile phones, (ii) adopt the qualitative approach to learn the experiences of older persons' use of mobile phone, and (iii) investigate the kind of mobile phones the older persons use and how helpful or otherwise they are to them.

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