ACCEPTANCE OF THE ONLINE WORLD BY THE ELDERLY OF AN AGEING CITY IN INDIA: STUDY OF KOLKATA

Sanchari Chandra

Ph.D. Scholar, Centre for the Study of Regional Development,
Jawaharlal Nehru University, New Delhi-110067, India

ABSTRACT

The world is gradually becoming digital in nature. The present study looks in the digital world acceptance by the elderly in the ageing city of Kolkata in India. The data is from primary survey held in the city. This study has tried to see how much the elderly there have become digitally literate. The results show mostly they use internet for using social media and using google search. The usage of online shopping or e banking is very low among the elderly of the city. The medium for accessing the internet is smartphones for majority of the elderly. Education level is found to have a significant influence on the elderly's online adaptation. In general the knowledge about computer was less among the surveyed elderly. Many elderly felt there should be some sort of elderly digital literacy programme to help their cohort to be digitally upgraded.

Keywords: Elderly Population, Internet usage, digital literacy, Kolkata, Urban India

1. INTRODUCTION

The introduction of the internet has ushered in an era of rapid hitherto inconceivable developments. Information of any kind is available to us within fraction of seconds of hitting the search button. With time we have grown dependent on the internet in multifarious ways. It has provided us many services like shopping, ordering food, banking activities, learning languages while sitting in the comfort of our homes. Even if we are not familiar with a particular place, Google maps can lead us to our destination. Being socially connected online or doing a business call on Skype, it has really become a small world. The use of Internet is increasing rapidly over the years. According to World Bank (2017) worldwide use of internet has increased from 6.7% in 2000 to 45.9% in 2016 and the growth continues. The rate of internet usage, though growing worldwide, varies across countries and regions. The countries of the developed world show a higher percentage of internet use eg USA (76%, 2016); Italy (61, 2017); U.K (95%, 2016); Japan (93%, 2016). In the developing nations the rate is quite low, though it is also rapidly increasing; Bangladesh (18%, 2016), Cambodia (32%, 2016); India (29%, 2016) (World Bank, 2017).

According to a joint report by Internet and mobile association of India and Kantar IMRB (2017) in India in 2016 there were about 432 million users, which the report estimates to touch 450 million in 2017. Along with this rapid technological development each passing year, there is another demographic phenomenon which is taking place worldwide. The world population is ageing or the world population pyramid is becoming top heavy. The rate of this greying population varies across countries. Presently the percentage is more concentrated in the developed part of the world but projection shows that the developing world will be the largest contributor to this above sixty proportion of population in near future, as the most populous countries like China; India etc. have already started to age. The global elderly population has been projected to become two billion by year 2025 (WHO, 2002). In 2010 the elderly population across the world was around 11% of the total population, with Europe having 24% of its population above sixty years of age. The lowest ageing is currently seen among the countries of Africa with the continent having 5.5% of elderly population in 2010. Among the Asian countries only Japan had 30% of elderly population in 2010 (Beard et.al, 2012). India has reached a percentage of 8.6 of elderly population in 2011 (Census, 2011).

1.1 Low internet usage among elderly: Digital Divide:

Scholars are of the opinion that the internet can in many ways help the elderly and make life easier for them. They can search for any information related to health and shop online without having to go out. Internet banking can help them save the hassle of visiting the bank for every small transaction or they can get various other services like phone recharge, tickets booking etc. without having to step out. Able to access all this while sitting at home by themselves, can provide them with a sense of independence and raises their welfare. Internet also provides us with the advantage of connecting with our close ones online even if they are in a different country. Scholars have felt that this social connection is extremely essential for the elderly. Social networking might help in lessening the isolation that some of them feel at their age, which is a major cause of depression among this age group. (Vacek and Rybenska, 2017; Morris and Brading, 2007; McMellon and Schiffman, 2002; Henke, 1999) Though so many advantages have been pointed out, the usage varies. In the above section it is seen that there is difference among the countries in the percentage of Internet usage. Even within a country there might exist such variations among the different sections of population. Researchers have termed this the 'Digital Divide', where a difference is found across two groups of population in terms of digital technology usage. This divide can be within countries, two age groups or gender (Agudo et al, 2012). Morris and Brading (2007) defined digital divide as follows 'The difference between having e-skills, particularly those related to Internet use, and not having them creates a new kind of information gap, which is generally known as a digital divide'. Tsai et al. (2017) finds that there are two levels of digital literacy as well as divide. The first is the knowledge and the

operational skill of the digital devices. The second level which seems more vital is the utilization of the services available online like health service, economic service etc. According to many studies across countries the divide is more prominent among elderly and the younger age cohort. Sometimes there are prevalent perceptions about elderly being 'technophobic'. Even popular culture reinforces this stereotype. It is perceived that across cultures, the elderly is not competent enough in adapting new technology (Neves and Amaro, 2012; Leppel and Mc closkey, 2011) Studies have shown that a considerably low percentage of the elderly population feel comfortable in accessing the internet. The onset of technological development was quite late in their lives and consequently, it becomes difficult for them to understand and adapt to new technological advancements after reaching an age, where slowly the cognitive abilities start declining. Largely they remain reluctant to use or learn it (Vacek and Ryabenska, 2017). In USA, according to the PEW report (2012), relatively less elderly people were online than the younger age groups. 53% of the population above 65 years were active internet users compared to 82% of the younger generation. The percentage dropped to 34% for the age cohort above 75 years. A study among the low income elderly population in Texas shows that only a small fraction of population of 60 years and above use internet and are digitally literate. Among them, the percentage of the minority or coloured elderly using internet is miniscule. In this case digital divide is found even within the elderly cohort on the basis of ethnicity. (Tsai et. al, 2017) In their study Morris and Brading (2007) found that one of the major reasons for the digital divide to be so wide is that the elderly are not interested in adapting to the new technology. Fear of new technology, lack of access to new technology, lack of experience and cost of connection, lack of to guide in learning etc. are few of the factors which are making the elderly repulsive from adapting to the new technology (Morris and Branding, 2007, Neves and Amaro, 2012). Gender discrepancy can also be noted in this context. A study in Almeria province of Spain showed that a very small percentage of elderly population uses computer and allied devices and internet. Among the elderly using internet the percentage of male elderly was higher (Gongora, et. al, 2017).

1.2 Acceptances of Internet by elderly:

The teaching of the elderly about digital literacy is possible with two levels of support. The initial level is to help them learn how to operate and the second level is to provide constant encouragement that they too can become digitally literate. (Tsai, 2017) In fact some of the studies show a different picture where the elderly are very eager to learn and have made serious efforts to learn it. Like in Portugal the elderly was of the opinion that age is not a problem in understanding the internet or computer and they considered those as very positive development (Neves and Amaro, 2012). In USA also it was seen that the eagerness to learn new technology and internet usage is very much prominent despite their declining cognitive ability. It had a

positive impact on their mental health (Tsai et al, 2017). In fact in Spain it was found that elderly have themselves learned how to use ICT by taking courses available in the social centres and their interest in internet search is similar to other age group. (Agudo et. al, 2012) Neves and Amaro, (2012) observes that in Portugal elderly is more comfortable in using mobile than computer mainly due to the lack of training to use the latter. But an opposite picture is seen where the elderly know how to handle the computer as they are more comfortable in using it for internet than the mobile as the small font becomes a problem for many of them. Studies show that where elderly have been made to use internet as a part of a project or they themselves have tried to learn, they found the internet to be an extremely useful platform. The elderly who are able to gain digital literacy used it for Banking, Marketing and social communication. It formed a medium for their entertainment and usage of time in this stage of life (Agudo et. al, 2012). In Israel a study showed that in a controlled group setup those elderly who used internet and learnt the various usage reported much lesser depression than the group who were taught other activities. It boosted their confidence and had impact on their psychological wellbeing (Shapira, et. al, 2007).

1.3 Elderly's experience of internet and their use of various online platforms:

One online platform which has been accepted by the elderly is the social media. The need or the feeling to remain connected with their children or reconnecting and connecting with friends and relatives have prompted them to accept it (Jung et al. 2017, Srinivasan, 2015, Coelho and Durate, 2016). The only concern is the privacy issue which some of them felt, might not be secured online. (Xie. et. al, 2012) Social surveillance on the close one or looking and uploading photos are the other factors which was cited by the elderly as the reason for being online on social media (Jung and Shunder, 2016) Some elderly have joined out of mere curiosity while some joined as their children requested them to join. Sinclair and Grieve (2017) is of the opinion that the change of people's social surrounding and their encouragement can influence their participation on social media platforms. In all this studies Facebook is considered as the most popular Social media platform. The non-user stated the privacy issue. Many felt that there is lack of substance in Facebook. Some elderly preferred face to face conversation rather than having chats over different platforms of social media. Time and no skills are other reason for staying off Social Media, Facebook in particular (Jung et al. 2017;Coelho and Durate, 2016) Gender has a slight impact on the social networking where women elderly are using Social Networking Sites (SNS) more than the male elderly though none of the study showed any significant relation (Coelho and Durate, 2016). A contrary picture of this gender dimension was found by Srinivasan (2016) where elderly male were more in SNSs.

Online banking or internet banking is still viewed sceptically by the elderly population in many parts of the world. The percentage of elderly using online banking is quite lower than the other younger age group of population (Margaret and Ngoma, 2013; Asmi and Ishaya, 2012). Wang et al. (2006) in their study have found that computer literacy and the feel of the ease to use the online banking are the factors which impact the use of internet banking among the population of a region. Mattila et al. (2003) in their study of Finish elderly are of the opinion that 'Mature Users' or elderly are 'late adopters' of the online banking facilities. Like the social media non usage, in case of internet banking non usage, the elderly have reported some reasons. The most dominant one is concerns regarding the security of the online transaction. Other than this lack of the availability of personal services, preference of physically visiting the bank for transaction etc. are also termed as factors for difficulty of the elderly adapting e banking (Asmi and Ishaya, 2012; Mattila et al. 2003)

Online shopping, on the contrary, has higher percentage of users than online banking. But in many studies it has been observed that the young old are the ones who are the main participants of online shopping. After the age 70 years either the elderly are not participating in online shopping or the percentage is very low (Mccloskey, 2006; Leppel and Mc closkey, 2011). Other than age the level of education also seemed to have some influence on the online shopping of the elderly (Leppel and Mc closkey, 2011). In a study by Rahman and Hussain (2014) on the population of Malaysia using internet banking it was found that the young elderly are the major participants of online shopping. Same observation is seen in case of Taiwanese elderly (Lian and Yen, 2014) For the Taiwanese elderly the main driving force is social influence. Both in Malaysia and Taiwan the major obstruction were security concern, risks, value and ease of using the online shopping site (Lian and Yen, 2014; Rahman and Hussain, 2014) Helsper (2010) in his gendered analysis of online shopping found that male elderly were more than female elderly in online shopping.

2. OBJECTIVES OF THE PRESENT STUDY

The objective of this study is to find, as India in becoming digital in recent years, to what extent the urban elderly have become digitally literate, what all services (like e banking, e commerce etc.) are they using and what are their experiences and the reasons for avoiding the online world.

3. STUDY AREA

This study focuses on Kolkata the third largest urban metro in India. Kolkata (22.5726° N, 88.3639° E) is situated in the eastern side of India, in West Bengal. The city is the capital of West Bengal. The total population is around 4.5 million. Presently in Kolkata the elderly population consist of 11 percent of the total population (census, 2011). The percentage of elderly

is highest among all the metros in India. Kolkata is followed by Chennai with 9.9 percent of elderly. The main reasons for selecting Kolkata as the study region for understanding the digital literacy of the elderly population is firstly, among the Indian cities Kolkata has the highest percentage of elderly population. Secondly, being an urban metro the internet usage and knowledge of online world might be relatively higher and availability of device and internet facility is better than any other town or urban area.

4. MATERIALS AND METHODOLOGY

4.1 Participants:

Two criteria were kept for the selection of samples. 1. They should be above 60 years of age and 2. Have some idea about digital devices and online platforms. The participants selected for this study ranged in age between 60 to 100 years. The respondents were approached randomly. The respondents were initially asked whether they have some ideas about internet and the services that are available online. Only those elderly were further interviewed who had the idea. Out of the 460 elderly who were approached 400 were finally interviewed. 40 elderly did not have clear idea about internet usage and its platforms and 20 elderly was not interested in the survey. Among the total sample surveyed, 207 were male elderly and 193 were female elderly. The respondents were from the different parts of the city and majority spoke Bengali which the regional language of the city.

4.2 Methodology:

The survey was done by collecting primary data on visiting Kolkata in November 2018 and February to mid-March, 2019. The survey was conducted with a self-structured questionnaire in the structured format. The questionnaire contained both closed and open ended questions. For questions like access or ownership of computer, elderly were asked whether they had access to computer at home which they can use any time at their own discretion. Most of the questions were close ended. Only the experience and reasons questions for using or not using services, like online banking, were kept open ended and many interesting responses were recorded. The responses were recorded and later categorized and narrowed down to a few broad categories. Some of the responses have been quoted as said by the respondents themselves to bring out the picture in a better manner. For analysing the data SPSS 20 is used. The analysis has been kept simple with percentages and cross tabulation. Logistic regression analysis has been done and through odds ratio value it was tried to be ascertained whether various socio-economic and demographic factor is having any influence on the use of digital world by the elderly.

5. RESULT

5.1 Characteristics of the elderly:

The total sample of elderly surveyed showed various characteristics. Out of the total sample 59.6 percent of the elderly belonged to the age group of 60-69 age groups, 26.2 percent fell in the age cohort of 70-79 years and the rest 14.2 percent were above 80 years of age. Majority of the elderly, 89.8 percent spoke Bengali, 8.5 percent spoke Hindi. The rest of the samples spoke Marathi (0.5%), Urdu (0.5%) and Punjabi (0.8%) respectively. Table 1 shows the other characteristics of the elderly population surveyed for the study

Table 1: Characteristics of the surveyed elderly population

Characteristics	Percentage of elderly
Marital Status	
Never Married	5
Currently Married	78.8
Widow/Widower	16.3
Social Group	
General	84.3
OBC	2.8
SC	13
Religion	
Hinduism	91.5
Islam	0.5
Christianity	1
Buddhism	0.5
Sikhism	0.5
Others	6
Educational Qualification	
Primary	6.3
Secondary	13
Higher Secondary	11.5
Graduate	53.3
Post Graduate	10.5
Above Post Graduation	3.5
Occupation	
Retired	22.8
Service	15.5
Housewife	27.8
Business	6.8
Pensioner	12
Other	12.3
Dependent	2.8

Source: Calculated from Primary field survey data

Listed under the other category of occupation were a variety of occupations in which the elderly were engaged like singing teacher, choreographer, private tutors, catering, crèche, legal advising etc. The retired and pensioner are made separate categories because those in the retired section are mostly in the private sector services, who did not receive monthly pension, and are dependent on their savings for the monthly expenses. 6 percent of the elderly who reported as atheist, humanity or no religion are categorized as other.

5.2 Use of computer and other devices and internet literacy:

About 59.5 percent of the surveyed elderly owned either a smart phone or laptop/desktop or both. The rest 40.5 percent did not have either.

Table 2: Electronic devices owned/present for accessing internet

Device in access/owned	Percentage of elderly
Computer	3.8
Smart Phone	23.3
Both Smart Phone and computer	32.5
Did not have any device	40.5

Source: Calculated from Primary field survey data

Among the 59.5 percent almost all had some form of internet connectivity either in their phone or computer or both and email ids as well. Among the elderly about 37.5 percent knew how to operate a computer and 31.4 percent can operate Microsoft office and other features of computer, other than turning on and surfing the internet. Among those elderly who have internet connectivity about 90 percent surfs google or knows how to operate google search. The rest are having the connection for majorly WhatsApp or Facebook operation. The gender and age cohort based analysis shows the following result.

Table 3: Sex and age group wise analysis of elderly use of computer and internet

		Male	Female	60-74	75 and above
Operate Computer	Yes	44.4	30.1	43.1	19.1
	No	55.6	69.9	56.9	80.9
Use Internet	Yes	58	54.4	62.5	36.2
	No	42	45.6	37.5	63.8

Source: Calculated from Primary field survey data

Among the 62.5 percent of the elderly who could not operate computer, 70 percent had the eagerness to learn computer. There is a wide range of topics which the elderly were reported to be surfing on google. The major ones are tabled below

Table 4: Sex wise analysis of topics most searched on google by the elderly

Searched Topic	Male	Female	Total
Miscellaneous information	21.4	39.8	30
Travel	28.2	14.6	21.8
News	41.9	20.4	31.8
Cooking	1.7	13.6	7.3
Health	6.8	11.7	9.1

Source: Calculated from Primary field survey data

67.1 percent of the elderly who searched internet for information and other purposes used their phones to do it. About 21.8 percent used both computer and phone for surfing and the rest 11.1 used only computer.

5.3 Use of social media:

About 52.8 percent of the elderly surveyed said that they use social media. About 50.2 percent of the elderly social media users, among the surveyed population, were female and the rest 49.8 percent was male. 46.8 percent of the elderly watched YouTube. The Major social media being used by the elderly in Kolkata are WhatsApp and Facebook. The apps other than Facebook, WhatsApp and Instagram, which elderly are using, are Facetime and Twitter. About 58 percent of the users have joined on their own. Another 23.9 percent joined on being suggested by their children. For the rest it's their friends, relatives or colleagues suggestion.

Table 5: Percentage of elderly using different social media platform

Social Media Platforms used by elderly	Percentage of elderly
WhatsApp	35.5
Facebook and WhatsApp	55
Facebook, WhatsApp and Instagram	3.8
Facebook WhatsApp and others	5.7

Source: Calculated from Primary field survey data, 2018

Among those users who used both WhatsApp and Facebook or more apps the experiences varied. About 16.8 percent liked it very much. 52.9 percent said it's important for staying in touch and reconnect with old friends. For 18 percent it was entertaining and time-pass and another 8 percent felt that it is their companion in old age to know what their family members are doing. And the rest had negative views about social media, particularly Facebook.

For those who are non-users of social media they had a few major reasons not to be a part of it. 2.3 percent of the elderly joined the social media before but left as they did not like it. 19.7

percent of the non-users believe that Facebook or WhatsApp is a complete waste of time or unproductive and they don't require it. 33.3 percent was not interested. And the rest 44.6 percent said they did not have the medium to use. Some of them found it interesting, if they get they would like to join as it. Mrs. S (73 years) said '*The social media appeared so interesting, my children use it. If someone teaches me I can operate it on our computer and hope to find my lost friends if they are still alive and on social media*'.

5.4 Use of online shopping:

Only 28.1 percent of the 400 elderly surveyed for the study shopped online without any help from others. The rest did not indulge in it, partially or wholly due to various reasons. 28.0 percent of the female elderly and 28.3 percent of male elderly shopped online. Age group wise analysis showed that the young aged were using it more (32.2%) than the old aged group of 75 and above age (14%). About 50 percent of the users had cash on delivery of the online shopping. 42.1 percent used both online payment as well cash on delivery.

10.5 percent of the elderly online shoppers felt that they get the products at reasonable and cheap rates than the stores. Another 10.6 percent felt that they get more choices at so many sites which are better than visiting one or two stores. 3.5 percent felt that it saves time 75.4 percent of the elderly involved in shopping online cited the primary advantage to be free from the otherwise hassle of going out and buying things. Here, they can choose from different sites sitting in the comfort of their homes and get it delivered to their door steps. Mrs. B (70 years) said '*I have severe arthritis. Online shopping provides me the opportunity to shop according to my choice without the need to go out.*'

Among the non-users 43.6 percent elderly reported they like online shopping but haven't tried it themselves. Mostly their Spouse or Children do it if required. 16.1 percent non online shopper elderly felt that stores provide better deals than online site. 11.1 percent was sceptical or did not trust the sites and the rest felt quality might not be good. The rest 24.3 percent of non-users said they did not have the knowledge to use internet of any devices.

5.5 Use of online banking system:

Only 17.1 percent of the elderly use online banking or internet banking. Among the net banking users the percentage of the male elderly (22.9%) is higher than the female elderly (10.9). Among the above 75 age group 14.9 percent used net banking while 17.8 percent of those from 60-74 years used internet banking. 87.4 percent of the elderly users said they like is it is convenient and can be done very quickly sitting at home. Another 12.6 percent felt the main advantage is it is accessible from anywhere any time even on vacation. Among the non-users about 26.5 percent felt that online banking is not trust worthy. 16 percent felt that they haven't given it a thought

whether they want to use it or not or the need was not there, they might try to use it. 15.4 percent said that their children or spouse have net banking and they do any transaction if required. Another 42.1 percent said it's complicated or they don't have the knowhow of using internet banking. 48.7 percent of the total respondents have used debit or credit cards for payment in the store.

5.6 Use of other services online and app based services:

There are various other services which can be availed online like mobile recharge, bill payment etc. but the survey showed that very less elderly availed these services online.

Table 6: Use of other online services by the elderly

	Percentage of elderly able to use
Online electricity bill	21.3
Mobile recharge/ bill payment	22.8
Train/flight booking	22.3
Fund Transfer	16

Source: Calculated from Primary field survey data

Other than the online services available presently, some app-based services available through smart phones have made life easier. Among them the most useful is Ola/Uber for travelling, Swiggy/food panda for delivering food. Almost none of the surveyed elderly have tried any food apps, though 40 percent of them have used OLA/UBER cab services.

5.7 Impact of various factors on the acceptance of the digital world by the elderly:

The odds ratio value showed some factors had significant influence on the elderly's acceptance of online world. Education level of the elderly had significant influence on the knowledge of computer as well the use of various online platforms. The below graduate had an odds value of 0.050 (related at 0.001) and graduate level odds value of 0.487 compared to the constant of above graduation level educated elderly in knowledge of operating computers. Young old elderly had odds value of 3.203 which was also significantly related (at 0.001). Similarly those who are in some economic activity and are pensioners have odds value to 2.246 and 1.489 respectively compared to 0.314 for dependents and 1.000 for retired (constant).

**Table 7: Odds value of regression analysis of the factors impacting
elderly use of online platforms**

	Odds value		
	Using social Media	Does online shopping	Does online banking
Age group			
60-75	2.222*	2.718*	1.234
75 and above+			
Sex			
Male	0.846	1.016	2.436**
Female			
Education level			
Below graduation	0.056*	0.108*	0.113*
Graduate	0.106	0.476*	0.547
Above graduation+			
Marital status			
Never married	2.739	5.143	3.000
Currently Married	2.225	5.717*	2.787
Widow/Widower+			
Occupation			
Pensioner	4.634*	1.827*	2.502
Dependent	1.559	0.633*	0.001
Economically active	0.906	1.765***	1.535
Retired+			

Source: Calculated from Primary field survey data

Significance level: *0.001; **0.002; ***0.005, + Ref category

5.8 Need of digital education:

While the question on whether they would like to learn to use internet or whether there should be arrangements of such training for those elderly who are digitally illiterate, about 65 percent elderly respondents said that digital training is very much required so that their cohort can adapt to the online world. The rest do not felt the need of it, as about 20 percent felt at this age it would be difficult for the elderly to go out and learn something. Those who felt the need of digital literacy reported their own experience and short coming with digital knowledge as the reason for the requirement of such training. Below are some of the exact responses quoted on the need of digital literacy for the elderly.

Mrs. M (62) librarian in a school felt, '*The training about the e world should be provided particularly to the low income population. Everything is becoming digital and these elderly are even more marginalised as they don't have the means to access the opportunity to learn*.'

Another Mrs. B (65) housewife by Profession said, '*Training of elderly for using the internet is absolute necessity. Now my daughter and spouse handle everything online but I fear if I am alone and I require something I won't be able to do it*'.

Mrs. S (74) feels marginalised '*I always have to ask by grandson or children to help me understand any feature of an app or mail. If I get the knowledge I would not need to depend on anyone*.

Mr. K (69) feels that he is not confident enough to handle everything online. '*Children get annoyed sometimes, because I have to ask for their assistance every time*'.

Mrs D (70) felt particularly training about banking online should be provided to every elderly. '*Our country is trying to become digital and cashless, but we elderly fell marginalised as we are left out so online banking training is the prior requirement*'

Mr. B, one of the elderly, 84 years of age who have made himself computer literate and can handle all the online activities feel, *Sometime we are not ready to learn but this mentality should be changed. There should be training and we elderly should also be willing to utilize this opportunity fully. If I can learn after the age of 80 years any elderly of any gender can learn.*

6. DISCUSSION

From the result of analysing the data it can be seen that the elderly are slowly getting adapted to the world of internet. The percentage of elderly who have proper computer literacy was less than half of the total sample surveyed. Almost 60 percent of the surveyed population has some medium through which they can be in touch with the online world. The elderly who did not know how to operate a computer or internet, were interested in learning computers and how to use internet, though they were rarely interested in the social media, though some elderly showed interest in learning about online banking. For the elderly of Kolkata it seems that smartphones have become their medium of accessing the internet. It is also evident from the data that almost half of the elderly population, who surfs net or uses Facebook etc., are more comfortable in doing it from the mobile than from laptop or desktop. One of the possible reasons may be that smart phones nowadays are easily affordable while computer requires some investment of capital. Also those who have both, the phone is always at their easy access and they don't want to have the hassle of handling the computer. This is somehow similar to the finding of the Neves and Amaro (2012) who found that the Portuguese elderly found mobile phone more comforting.

In fact the ownership of mobile phones (of elderly) was higher than computer. They all have email ids but many have never used it for any purpose other than to read mails. The mails they get are mostly promotional or bills or likewise. It is interesting to note that the elderly turn to google for many sorts of information. The elderly searched different information like home décor, mythological information, Teaching material, historical facts, recipes, matches etc. One of the particular topics that many elderly searched was tourism and travel. They searched about travel destination within India for their upcoming trips or those not yet planned. Some elderly even searched foreign destinations. Some of the male elderly searched the internet to learn about shares and stock market. One of the important observations is there were few elderly who have the medium to operate internet but did not prefer to use it. They mostly did not feel the need to search anything and used it occasionally in very rare cases. On the contrary, few elderly who are digitally illiterate seemed to be very interested in the Google search and expressed their desire to try it if given a chance.

The analysis also shows that the adaptation of the internet world is more for using WhatsApp and Facebook. The percentage of elderly adopting the social media is higher than the percentage of elderly who know how to otherwise operate the computer. Among the existing social media platforms, the highest percentage was using both WhatsApp and Facebook. Majority among these elderly had positive views about Facebook because of many reasons. They connected with their old friends and felt good about themselves that they are at par with the young generation in posting pictures or commenting or chatting. Also, Facebook is being considered as a medium that helps them spend their time and acts as an online companion. WhatsApp seemed to be the most popular and accepted among the elderly of the city if we consider the usage of the app alone and in combination. All the elderly who used social media had WhatsApp. The acceptance of WhatsApp is mainly due to the trust and personal sense which the elderly get from the app. The analysis of odds ratio shows that the female elderly are slightly more prone in using social media than the male elderly though not significantly related. This observation is in line with the findings of Coelho and Durate's study (2016). Similarly a higher probability of using social media is higher among those elderly who have education level above graduation and it's significantly related.

From the analysis above it can be seen that 28 percent of the surveyed elderly have adopted online shopping and they have very positive response regarding it. Majority is of the view that it saves them the hassle of going out and can get the things. According to them they get more options at reasonable rates at so many sites and their transport cost is also saved. Some preferred online shopping but in a few cases like buying jewellery or electronics would prefer going to store and buying it. But the percentage of elderly preferring online shopping is lesser than the non-using elderly. In other studies it had been found that the elderly who are not shopping online

do not prefer it or have trust issues with online products. In case of Kolkata very similar responses were found among the elderly population. Besides them, there is another category of elderly who like online shopping but are dependent on others to do it, some of them even participates in the selection of the product but lack the confidence of handling transactions online or placing the order. They have never thought of themselves ordering ever. It can be inferred that if this section of the elderly population is encouraged to use online shopping themselves the percentage of elderly using online shopping will go rise like that of the social media usage.

Online Banking is the most advantageous feature available, where we can transfer money or avail any banking facilities sitting in the comfort of our home. But a minute percentage among the surveyed elderly uses it. Those who have adopted have found it very convenient but largely elderly people avoid using the internet banking. This finding is very in line with the studies done in Zimbabwe or UK (Margaret and Ngoma, 2013; Asmi and Ishaya, 2012) where elderly did not prefer to do it online. There is not much difference between the young old and the older old in using internet banking. The major hurdle in the acceptance of net banking by elderly in the city is security issue. They are very scared of frauds. Some elderly don't even have debit or ATM cards. They visit bank every time they have to deposit or withdraw money. Even some elderly who were employed in banking sectors before retirement, don't trust the ATM transactions. In this case to allure the elderly population the banking sector should develop some programme or feature which would provide them with the sense of security and trust and more importantly, the ease of accessing it. Due to this distrust regarding online financial transactions a very small percentage of elderly use services like mobile recharge or bill payment or train or flight tickets booking. Due to the preference of not using online payment most of the elderly who do online shopping go for cash or card on delivery because they feel if they pay before delivery they might not be able to pursue in case of any grievance regarding the product.

Both in case of online shopping and internet banking the regression analysis shows a significant relation with the education level of the elderly. The literature surveyed in the beginning also showed similar relation between education level and online shopping and banking (Wang. et. al, 20006; Leppel and Mc Closkey, 2011). The higher the education level, higher is the chance of the elderly using the above two services. Male elderly are in higher chance to use internet banking, In online shopping the occupation of the elderly had a significant influence. The elderly who are pensioner and are currently in some economic activities have a higher probability of buying things online than those who are retired and don't have pension and those elderly who are dependent. The reason might be the economic independence is giving the elderly the confidence to use online shopping.

Even if the elderly are accepting some advantages online while for others they do not trust it or are reluctant, they do have an eagerness to learn about the internet and all its features. More than sixty percent of the surveyed sample reported that there should be some measures which can let them understand or learn more about the features available online. The respondents were both those who were completely digitally illiterate and those who know some of the features. Even the elderly who are pro in using all the services online feel that other elderly should be taught and made aware of all the advantages they derive from using the internet. The increasing digitalization, dependency on younger generation and their in eagerness to teach the elderly, the increasing percentage of elderly who are left behind etc. have made them feel the need to learn and accept the online world. Those who have made themselves digitally literate and those who are trying to learn do mostly by their own accord. So most of them reported if proper training is available it would be easier for them to grasp the world of internet as there would be someone to guide them.

7. CONCLUSION

Digital world will become inevitable in the upcoming days. So the necessity of all the age group to adapt to the online world is becoming the need of the hour. India is gradually becoming digital and the rate is higher in the urban areas. The study showed that the elderly population in Kolkata is slowly adapting or rather accepting the online world as a part of their lives. But presently the acceptance is not wholly spontaneous or free from suspicion. They have accepted it more for the purpose of entertainment rather than as a necessity.. Some elderly even felt that there is a need of training for the use of all features of internet for their age cohort. Also, the elderly who are digitally illiterate, showed eagerness to learn it. We can therefore conclude that along with becoming an aging city, Kolkata is also becoming a city where the elderly are slowly becoming digitally literate which can be seen as a positive notion. A little encouragement and availability of training can help more elderly to become digitally literate. In this case the digital literacy of the population below the poverty level or illiterate should be also taken into account. If the country is becoming digital this section of population should also be included in the same digital development.

REFERENCES

Agudo, S., Pascual, M. A. & Fombona. J. (2012). Uses of Digital tools among the elderly, *Comunicar*, 39(v), 193-201, DOI: 10.3916/C39-2012-03-10

Asmi, F., & Ishaya, T. (2012). Understanding the behaviour of the elderly towards internet banking in the in the UK, *SOTICS2012*, ISBN: 978-1-61208-228-8

Choi. N. G. & DiNitto. D. M. (2013). The digital divide among low-income homebound older adults: internet use patterns, eHealth literacy and attitudes towards computer/internet use, *Journal of Medical Internet Research*, 15(5), doi: 10.2196/jmir.2645

Coelho, J. & Duarte, C. (2016). A literature survey on older adult use of social networking services and social applications, *Computers in Human Behaviour*, 58, 187-205

Gongora, et. al. (2017). Habits of elderly regarding access to the new information and communication technologies, *Procedia - Social and Behavioral Sciences*, 237, 1412 – 1417, doi: 10.1016/j.sbspro.2017.02.206

Goswami, S., Köbler, F., Leimeister, J. M. & Krcmar, H. (2010). Using Online Social Networking to Enhance Social Connectedness and Social Support for the Elderly. In: *International Conference on Information Systems (ICIS),* Saint Louis, MO, USA

Henke, M. (1999). Promoting independence in older persons through the Internet, *Cyber Psychology & Behavior*, 2, 521–527.

IAMAI & KANTAR IRMB. (2016). Internet in India-2016, Report, India

John R. Beard et.al. ed. (2012). 'Global population ageing: Peril or promise', working paper no 89. *World economic forum,* Geneva

Jung, E. H. & Shunder, S. S. (2016). Senior citizen on facebook: how do they interact and why, *Computer in Human Behaviour*, 61, 27-35.

Jung et al. (2017). Social Networking in the ageing context: why older adults or avoid facebook, *Telematics and Informatics*, 34, 1071-1080.

Lian, J. W. & Yen, D. C. (2014). Online shopping drivers and barriers for older adults: Age and gender differences, *Computers in Human Behaviour*, 37, 133-143.

Leppel, K. & Mccloskey, D.W. (2011). A cross-generational examination of electronic commerce adoption, *Journal of Consumer Marketing*, 28(4), 261-268

Margaret, M. & Ngoma, M. F. (2013). Socio-demographic factors influencing adoption of internet banking in Zimbabwe, *Journal of sustainable development in Africa*, 15(3), 145-154.

Minna M., Heikki K. & Tapio, P. (2003). Internet banking adoption among mature customers: early majority or laggards?, *Journal of Services Marketing*, 17(5), 514-528

McMellon, C. A. & Schiffman, L. G. (2002). Cybersenior empowerment: How some older individuals are taking control of their lives, *Journal of Applied Gerontology*, 21, 157–175

Morris, A. (2007). E-literacy and the grey digital divide: a review with recommendations, *Journal of information literacy*, 2 (3)

McCloskey, D. W. (2006). The importance of ease of use, usefulness and trust to online consumers: an examination of the technology acceptance model with older consumers, *Journal of Organizational and End User Computing,* 18(3), 47-65

Neves, B. B. & Amaro, F. (2012). Too old for technology? How the elderly of Lisbon use and perceive ICT, *The Journal of Community Informatics*, 8(1), 1-12

Pew research centre. (2012). Older adults and Internet use, *Pew research centre internet and American life project*, Washington.

Rahman, M. S. & Hussain, B. (2014). Perceptual differences of older customers' to purchase from online: Malayasian perspective, *International journal of Business and society*, 15(1), 171-190.

Shapira et. al. (2007). Promoting older adults' well-being through Internet training and use, *Ageing and Mental Health*, 11(5), 477-484, DOI: 10.1080/13607860601086546

Sindair, T. J. & Grieve, R. (2017). Facebook as a source of connectedness in older adults, *Computers in Human Behaviour*, 66, 363-369.

Srinivasan. M. I. (2015). Playing second innings online: an ethnographic study of internet usage among the urban Indian middle class senior citizen of Hyderabad, India, *Global Media Journal*, 13(25), 1-21,

WHO. (2002). 'Active Ageing: A policy framework', Geneva, Switzerland

Xie, Bo. et al. (2012). Understanding and changing older adults' perceptions and learning of social media, *Educational Gerontology*, 38(4), 282-296, doi:10.1080/03601277.2010.544580

Yi-Shun, W., Yu-Min, W,. Hsin-Hui, L. & Tzung-I, Tang. (2003). Determinants of user acceptance of Internet banking: an empirical study, *International Journal of Service Industry Management*, 14(5), 501-519