

Influence of Internet Adoption on Online Purchase of Senior Citizens With Special Reference To Mumbai Post Pandemic

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Abstract

The Pandemic of Covid -19 has led to an upsurge in the adoption of Internet technologies due to the lockdown and new normal norms. People had to adjust to the ways of new life and Senior Citizens were not left behind. Despite the fact that digital medium has changed lives and made the exchange easy, Senior citizens are still searching for a solution for the easy use of it. As per the Government of India 2017, Senior Citizens in India contributes to 10% of the population which is expected to grow by 20 % by 2050. This emerging population is looking for convenience and acceptance of certain new trends. The sampling age was defined between 60-75 yrs. Data was collected through focus group discussions in the online medium and online questionnaires were also floated. A total of 70 cases were collected out of 100 cases. Literature review has helped to establish hypothesis, regression analysis was used to check the factors that were affecting Internet adoption leading to online purchase. The factors which were identified are ease, usefulness ,attitude and trust .Cronbach's alpha was used to check the reliability . This paper can be considered as steppingstone for further research in field of technology adoption and can provide immense help to both society and the corporates in understanding a new segment which is emerging today for innovation and sustainability.

Key Words: Senior Citizens, Internet Adoption, Perceived ease of use, Adoption of Technologies, Online purchase

INTRODUCTION

Pandemic COVID-19 and its Impact

COVID-19 or particularly known as Novel Corona virus is connected with the respiratory lung disorder and has been called as a global pandemic for the year 2020 by WHO. This has led to lockdown and completely closure of activities of human life . People were asked to stay at home . They were not allowed to go out even for essential services. The major events lead to decline of various activities which affected all demography's and specially the senior citizens. This has actually forced the senior citizens to adopt the Internet technologies and utilize the help of this technology. The drivers of economy even in times of pandemic still remains Information and Communication technology(ICTs).

Senior Citizens Definition

According to the ministry of social Justice and empowerment, 'a senior citizen means any person being a citizen of India, who has attained the age of sixty years or above' (ministry of social justice and empowerment). One in every eight of the world's elderly population lives in India and most of them never retire in the usual term (Ministry of Social Justice and Empowerment, 2011). Though the

number of elderly population is tremendously increasing overall welfare programs are not growing to support the quality of life of elderly in India.

Senior citizens share(60 years and above) is larger than many developed countries of the world like Japan and is projected to increase from 901 million in 2015 to 1.4 billion in 2030 and 2.1 billion in 2050

Senior population is predicted to grow more than three times by end of 2050.”The world has seen an rapidly ageing population with respect to the increasing information technology”(Ashima V Gopal & Dr V Murale 2018) .

Digital era could positively impact the senior citizens social and economic welfare by making them inclusive(Aldrige 2004). But the question still remains why should they accept the technology ? But this pandemic has not left any option for them to think about. Technology adoption is a phenomenon that refers to the acceptance, involvement, integration and use of new technology in society. Technology diffusion, computer education, and web communication lingo that dominate the portal have thrown loads of challenges, which Senior citizens across the world are adopting with openness.

Report by Economic Cooperation and Development Organization of 2016 asserts that Internet contributes significantly to economic growth , social well being and development of different nations society and its upliftment. There is a digital divide seen very evidently among different strata of society. This divide is also broadly seen between age groups. It occurs because of lack of digital literacy and poor technological education. There is a gap between people who can access the technological devices and who cannot .It has been understood that Internet in hand with smart devices like phones, tablets and computers could immensely influence senior citizens with age related needs like health, social wellbeing, financial and safety.

As per Kantar IMRB 2019, Internet penetration in India has grown almost by 35% including both rural and urban. But the Internet penetration of Senior Citizens is just mere 3%. The reasons for this could be attributed to several factors which includes task of memory, problems with the pointers, giving more time in understanding the applications. This was highlighted in Jeff Johnson and Kate Finn book “Designing User Interfaces for an Aging Population.”

The current research tries to document the impact of pandemic on adopting Internet by senior citizens in Mumbai. The paper further tries to correlate whether there is any relation while adopting Internet and online purchase behavior. Research has suggested various variables which implicate buying online. and adoption of technology. There is severe dearth of literature available in Indian academia on this aspect of technology adoption. Although there is a fair amount of research available in the context of developed nations on the attitude of senior citizens and it's relatedness to Internet adoption.

Research Gaps and Objective of the study

The digital divide which is primarily seen among the age groups comprising of senior citizens have highlighted different facts of Internet adoption. But the research on these adoption parameters are not dealt within Indian context , which provides an important ground to understand and evaluate the barriers or motivation to acceptance of technology and that to Internet. So what are the parameters of adoption and acceptance this paper tries to highlight and find answers to some questions.

- 1 To study the various variables* for adoption of Internet by Senior citizens
- 2 To measure the correlation between Internet adoption and Online purchase by Senior citizens

*Variables: Ease of use, Attitude of individual, Usefulness, Trust

Research Hypothesis

H01 Ease of use has a significant impact on adoption of Internet

H02 Perceived usefulness has a significant impact on adoption of Internet

H03 Attitude of an Individual has a significant impact on adoption of Internet

H04 Trust has a significant impact on adoption of Internet

H05 Internet adoption has significant influence on frequency of Online shopping

Literature Review

Technology adoption

According to Maria A. et al 2013 previous studies of senior citizens accepting internet is not conclusive. To understand the adoption of technology by the elderly a model of TAM (Technology Adoption Model) has to be applied. TAM (Davis, 1986) help us to understand how perceptions and ease of use embraces the adoption of technology (Davis 1989, Bagozzi and Warshaw 1989). The main purpose of this article is to understand the adoption of Internet. Senior Citizens are a heterogeneous group and that is why factors of TAM are considered as the prime determining factors to analyze the Internet acceptance or adoption. The Internet can be considered as the main contributor in making senior citizens active and can lead to decrease in their social isolation (Hill, Beyon, Davis Williams 2008). Present ICT's has given lots of advantages to senior citizens. It has given them autonomy and helped their everyday functions of day to day (Slegers, vanBoxtel and Jolles 2012). But use of Internet requires some skills which could be cognitive or user experience (Cresci et al 2010). Today's seniors are more healthy, better educated and financially stronger. But it is not well known about their participation in the online platform. That is the reason why researchers are analyzing various variables of attitude, demographics, risk taking ability, ability to innovate (Reisenwitz, Iyer et al 2007) or the reasons for not using the Internet (Peacock and Kunemud 2007).

Researcher emphasizes how Internet barriers could be overpowered by being enthusiastic and willingness to accept new technology. The elderly must be informed about the benefits and uses of technology and its privacy issues.

The study conducted in UK by Eleftheria Vaportzis, Maria Giatsi Clausen, and Alan J Gow (2017) highlights that adopting of new technology significantly improve their quality of life and bridge gaps across generations by teaching older people to use technology (Orpwood et al., 2010).

Internet may help in linking family and known ones, facilitate activities of daily use such as shopping and financial transactions (Czaja et al., 2006).

The article by Jacqueline K Eastman (2004) throws light on the use of the Internet by older adult consumers and the effect of its use on the attitude, innovation, and population. They preferred to get trainings from the team or their friends and family. Education and income both affect the intentions and willing to use Internet. Research further suggested various factors that influence Internet adoption—recognized benefits, opens to use, individual's knowledge and societal pressures. Recognized or Perceived benefits have different aspects that arise from communicating effectively using different mediums (Poon 2000).

Digital-commerce, mobile banking are the primary growth enhancers of economic value adds in many countries (Albirini 2008; Dedrick, Gurbaxani, & Kraemer 2003; Kenny 2003, Koh & Chong, 2002). More importantly, the Internet is driving large sum of revenues and skill-development opportunities for individuals across the globe. It supports opportunities to start businesses online, collaborate professionally across, help learn and share new experiences, and communicate openly (Chavula, 2013; James, 2008; Larson & Murray, 2008; Laguerre, 2013).

For Online purchase

Previous research has enumerated various factors that affect online purchase behavior. Few factors that are of focus are for example, information systems marketing and Psychology. Koufaris (2002) tested these factors, Pavlou (2003) suggested interrelationships between digital commerce, belief, risk associated, benefit and ease. Pavlou and Fygenson (2006) states that adoption of online purchase has a correlation with the TBP-theory of planned behavior "(Ajzen, 1991)". Barnes and Guo (2011) states in "Purchase behavior in virtual worlds: An empirical investigation in Second Life" proposed a model for purchase in online platform using a factors and variables of existing users and new adapters. Factors that were used -external motivators- perceived value, instinct motivators - perceived happiness, social factors and consumer's habits. Outcome from the study indicated that habits, like external and instinct motivators have great effect on development of online shopping behavior. Hernandez et al. (2011) in a study "Age, gender and income do they really moderate online shopping behavior?" also supported the findings

Materials and Methods

Data Collection and Sample size

The study uses primary data survey which were collected from senior citizens (age 60-70) for practical purposes in Mumbai using a questionnaire through Zoom or Whatsapp chat. Focus group discussions were also conducted among the senior citizens on different ICTs of Google meet and Zoom. The population of senior citizens in Mumbai is 15 lakh out of which 69% seniors are in the age group of 60-70- lakh (International Institute of Population Sciences Dec 2018,). The study adopted a simple random sampling technique to select the sample. The reason why age group of 60-70 senior citizens were taken for the study as this sample is convenient to understand the perils of technology acceptance and is healthy and were ready to accept changes because of changing times.

A pilot was conducted to test the instrument for measurement of data related to adoption of Internet. The questionnaire was Likert scale ranging 1- 7 pointer from Strongly agree to Strongly Disagree. The Questionnaire is divided into two parts a) Internet acceptance and adoption post pandemic b) Online shopping behavior and intention. The variables under consideration are ease of use, usefulness, Attitude of an individual towards Internet adoption and trust. The paper further tries to prove a relationship between Internet adoption and online purchase.

The data was collected from 70 eligible respondents out of 100.

Spearman Correlation analysis which is bivariate in nature is used to test the hypothesis as well as percentage proportion method. A reliability analysis is carried out to check for internal consistency of factors. The Cronbach alpha for four factors was conducted. A rule of thumb suggests that the Cronbach alpha value should be greater than 0.7. Among the factors, Usefulness has the highest Cronbach alpha of 0.886 while the attitude has the lowest Cronbach value of 0.850. Since the value of Cronbach alpha for each of the factors is greater than 0.7 indicating a very high reliability (Hair et al., 2006).

Analysis

It has been observed to a larger extent that new technology adoption is dependent on the chunk of knowledge one has regarding the use of technology appropriately, and complex technologies, such as the Internet, require more knowledge (Rogers, 1995). The first level of analysis is done to find out the percentage adoption of Internet by senior citizens. The research was conducted using a survey method. The questionnaire is tested through the method of percentage proportion, which signifies the percentage of respondents in favor of the proposition. The entire study is divided into two parts 1. Understanding the adoption of Internet for Senior Citizens. 2 After the adoption do they take a step further and purchase online. So two perspectives through variables are tested

Internet Adoption Variables (Percentage Proportion scale)

Data suggests that around 66-70% respondents feel that using Internet is easy but when helped by others which could be their friend or family. About 60% find it useful for certain areas like texting and Chatting while rest others have a mixed reaction of 40% for its usefulness. Attitude towards Internet adoption is very positive which is 90% and they are ready to learn it for daily activities. Very striking feature was observed during the analysis that they are though positive for Internet but when it comes to Online shopping only 46% respondents gave a positive reply, rest were very apprehensive.

Ease of Internet Adoption	%	Usefulness Internet Adoption	%	Attitude towards Internet Adoption	%
Learning to use the internet is easy	72	I use the internet quite often for personal use	92	I am positive towards the internet	86
using the internet is easy and understandable	64	I spend a lot of time on internet for personal use	50	It makes sense to use the internet	94
it is easy to become skilful at using Internet	75	I have been using the internet for personal use for along time	74	People should adopt the Internet	90
Using the internet for online shopping is easy	46				

Adoption Variables (Spearmen Correlation analysis)

We have analyzed the interplay between different variables and their correlation index. This helps us to understand the behavior in 2 dimensions thus helping the marketer to use the most correlated variable to design the best user experience.

a) Attitude and Internet Adoption Correlation

Variables	For personal use do you use internet quite often	I am positive toward the Internet
For personal use do you use internet quite often	1	
I am positive toward the Internet	0.642	1

Correlation Coefficient value $r=.642$. shows a strong positive correlation.

Proves the hypothesis that there is a correlation between Internet adoption and Attitude of the Internet to the senior Citizens

b) Usefulness and Internet Adoption Correlation

Variables	Internet use for a very long time in personal work	Internet Usage makes sense
Internet use for a very long time in personal work	1	
Internet Usage makes sense	0.554	1

Correlation Coefficient value $r=.554$ shows a positive correlation.

Usefulness is gaining momentum. Proves the hypothesis that there is a correlation between Internet adoption and Usefulness of the Internet to the senior Citizens

c) Ease of Use and Internet Adoption

Variables	Learning to use ,Internet is easy	Internet usage makes sense
Learning to use ,Internet is easy .	1	
Internet usage makes sense	0.422	1

Correlation Coefficient value $r=.422$ shows a weak correlation.

Internet is not ease to adopt but still Senior citizens are trying to adopt. Although during this pandemic they are forced to adopt.

d) Online shopping and Internet adoption

Variables	Internet for online shopping is easy	People should adopt the Internet
Internet for online shopping is easy	1	
People should adopt the Internet	0.321	1

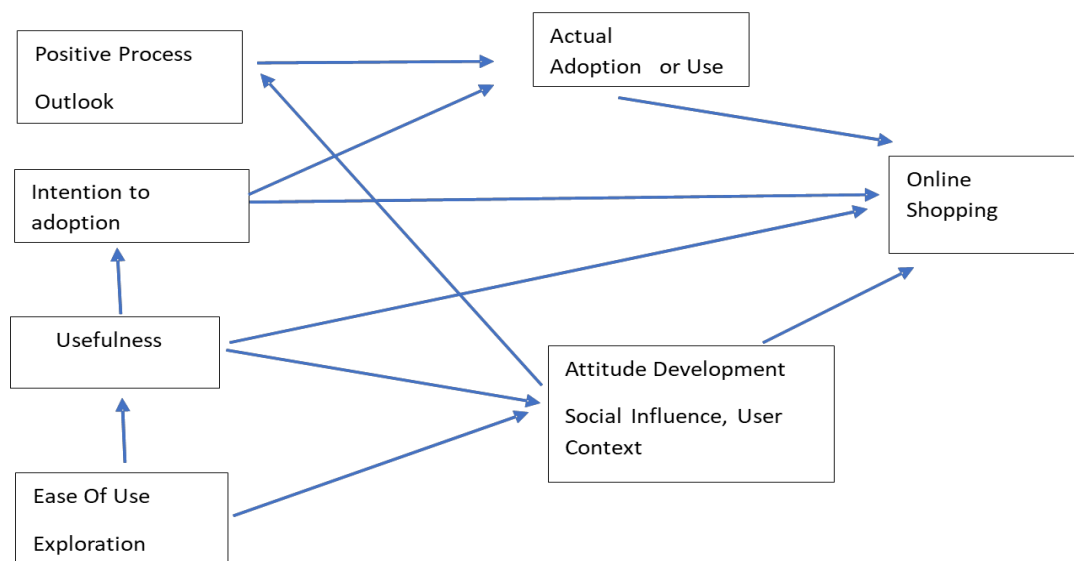
Correlation Coefficient value $r=.321$ shows a weak correlation

Though weak but still some kind of positivity can prove that Internet adoption can help Online shopping to gain much help.

Conclusion and Business Impact

Exhibit 1

Senior Citizens Internet Adoption Model



Senior Citizens Internet adoption model as suggested in the Exhibit 1 explains the adoption and acceptance through various parameters where attitude development and exploration plays a pivotal role. Intentions of attitudes and its usage may be ill-developed or lacking in belief and it may occur only after 'preliminary strivings' (Bagozzi, Davis & Warshaw 1992) to learn to use the technology evolve. It is imperative to understand the distinction between acceptance and adoption of technology. For instance, if adoption means totally embrace technology like an Internet addict. Acceptance is more about attitude toward a technology. Most remarkable fact that data suggests is the thought that online shopping though is a convenient method but its awareness and digital journey of searching, filling details and closing the process needs updating.

There is an impression about senior citizens that they are Tech phobic and for the same reason the companies do not want to reach out to them. This study provides an integrated framework to help companies to do better understand the scope and determinants in adopting the technology.

Limitation of the Study and Direction of Future Research

The area under study is Mumbai for convenience purpose. The study has not taken into consideration the gender variable which can be used for further research. The research can further be enhanced by considering certain digital platforms or digital engagements to a particular population.

The findings of this research are the outcome of respondent level of perceptions, towards the variables that influence the Internet adoption leading to Online shopping. This research can open a new wave for understanding different formats and ways senior citizens can use to make online /digital shopping easy.

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