Tech-Savvy Seniors: ICT Adoption and Social Connectivity among Senior Citizens in Urban India

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ABSTRACT

India's senior citizen population, currently constituting 8.6% of the total, is projected to exceed 20% by 2050. As this demographic grows, understanding their interaction with Information and Communication Technology (ICT) becomes increasingly vital. Ageing is often accompanied by physical, emotional, and social challenges. However, an increasing number of urban senior citizens are turning to ICT tools to enhance connectivity and overcome isolation.

This study explores the usage patterns, benefits, and barriers to ICT adoption among senior citizens in Delhi. Using Davis' Technology Acceptance Model (TAM), the study investigates how perceived usefulness (PU) and perceived ease of use (PEOU) influence technology uptake. Survey data from 155 individuals aged 55+ were analysed using both users and non-users. The questionnaire items were explicitly mapped to TAM constructs: PU was assessed through perceived social and functional benefits, while PEOU was gauged via reported difficulties and support needs. Findings show that ICT tools such as WhatsApp, email, and video calling significantly support family connectivity. Key socio-demographic factors (age, education, occupation) influence adoption, while fear of mistakes directly corresponds with PEOU. The study recommends targeted digital literacy workshops, user-friendly interfaces, and government-supported tech support initiatives. This is crucial to ensure age-inclusive access in India's digital ecosystem.

Keywords: Senior Citizens, ICT Adoption, Social Connectivity, Technology Acceptance Model (TAM), India Ageing Population

INTRODUCTION

People over the age of sixty that is the senior citizens, form a significant part of the Indian population. According to Ministry of Statistics, they constituted 8.6% of the population in the 2011 census of India; while the figure is expected to cross 20% by 2050 and be as high as 36% by the end of the 21st century as published in the 'India Ageing Report 2023' released by the United Nations Population Fund (UNFPA) and the International Institute for Population Sciences – IIPS (Livemint, 2023). With old age comes its share of problems. Social, economic and physical (health) issues crop up, leading to a disconnect from the outer world. There is a strong resistance to change amongst the aged.

Today, a large section of the urban Indian population has become accustomed to Information and Communication Technology (ICT) use. According to a joint study the Internet and Mobile Association of India (IAMAI) and Kantar – 'Internet in India Report 2024' – the country's internet user base reached 886 million in 2024 and is expected to cross the 900 million mark in 2025 (Roy, 2024).

ICT tools have become an integral part of people's lives, especially in the post-COVID era; with a lot of uses ranging from online shopping; e-banking; information sharing; leisure activities including social networking; OTT viewing and several others. Even with such varied uses of internet technology available today, there are certain sections of society which do not have digital access. Often this section includes a number of senior citizens, and they feel excluded due to a lack of technical know-how, which in turn cuts them off socially.

Deficient technology use can lead to the creation of a Digital Divide with the youth, who happen to be active Internet users. This divide may not be self-chosen, but a lot of factors can contribute to it.

Studying the cross section of these two extremely impactful trends, authors Eggermont et al., (2006), identified various barriers to adoption of ICT in the later phase of life, including biological, cognitive, social, economic and psychological factors. While explaining the reasons for older adults' disconnect with the ICT, they explained that, "failing eyesight, a declining ability to learn and retain information on new subjects, reduced contact with environments that feature new technologies (e.g. the workplace), and limited financial means, for instance, may hinder the adoption of ICT."

To overcome their social disconnect, a large number of senior citizens are adopting technology and ICT tools. Even though there is a high possibility that this segment of the population might find ICT difficult to understand and navigate, they still use it and put it to good use. According to a study conducted by the Penn State University, senior citizens are the fastest growing demographic of Facebook, "In 2013, 27 percent of adults aged 65 and older belonged to a social network, such as Facebook or LinkedIn, according to the researchers. Now, the number is 35 percent and is continuing to show an upward trend" (Swayne, 2016).

The elderly amongst us have various age-related problems. But that doesn't mean that the technological tools available to them cannot be put to use for their betterment and inclusion in society. It can be a strong tool to counter their disconnect and loneliness. The benefits that one reaps from technological use may vary from individual to individual and may be affected by their abilities, attitudes towards computer interaction, its application and successful adoption.

While the term ICT is often used to include technologies like computers, telephones, mobile phones, internet radio, web TV etc., for the purpose of the proposed research ICT has been used to include technologies like Internet, mobile phone and their uses and services. Social media services include e-mails, what's App, Facebook, and video calling; and Internet related services include ticket and cab booking services, bill payments, internet banking, recharge services, and health apps. Senior Citizens have been defined as all the people over the age of 55 years, keeping in mind the guidelines and policies of Government of India.

This research aims to look at the ICT usage by older adults. Are the uses and ICT services being used by the seniors staying in Delhi? How are they using it? Do they use any other features/ tools of ICT available to us? In what ways are they benefiting from this use? What problems or barriers do they come across while using technology? The study would further try to distinguish the pattern of usage by female users and male users. Is there a difference in the usage patterns? And if yes, then why does this difference arise?

REVIEW OF LITERATURE

A growing body of literature highlights the role of digital technology in enhancing the wellbeing and social inclusion of older adults. Across diverse geographic contexts, these studies converge on the benefits of internet and ICT use for senior citizens, especially in combating social isolation, supporting mental health, and encouraging active ageing. In order to gain a comprehensive understanding of these factors, several existing studies were reviewed as discussed below.

A recent study explored the psychological and social factors influencing internet use among Croatian seniors. It highlighted that self-efficacy—confidence in one's own ability to use the internet—is the most significant determinant of both the intensity of usage and the ability to overcome obstacles. While social influence (encouragement from family and friends) positively impacts self-efficacy, it has only an indirect effect on internet usage. Surprisingly, social support was not a significant predictor of usage or obstacle reduction. In some cases, excessive social support even increased anxiety, suggesting that empowering seniors through educational programs is more effective than over-reliance on external help. The study recommended user-friendly design and self-confidence-focused interventions over passive assistance-based strategies (Pejic Bach et al., 2023).

Another study conducted in Osijek, Croatia focused on the digital behaviors and preferences of senior citizens aged 65 and above. In their paper, the authors reported that nearly 70% of their respondents use the internet, predominantly for communication and information-seeking, while activities such as e-shopping and e-government use remain minimal. Usage patterns varied significantly based on gender, age, educational attainment, and life satisfaction. Smartphones were the preferred device, although many seniors still struggled with digital literacy, highlighting a need for systematic local policy efforts to address digital exclusion (Petr Balog et al., 2022).

The SENIOR Project took a different approach by integrating behavioral science with ICT. This initiative, grounded in nudge theory, developed a smartwatch-based intervention system designed to support community-dwelling older adults with mild cognitive impairment (MCI). The system collected physiological and behavioral data to offer personalised feedback and alerts to caregivers and doctors. The goal was to help seniors retain independence, enhance cognitive health, and maintain social interaction—all of which are crucial to aging well. This research illustrated the intersection of health technology, preventive care, and aging research (Cammisuli et al., 2021).

In a pan-European study, the authors provided a typology of older internet users based on Eurobarometer data. Their study challenged the simplistic user vs non-user binary and instead identified three nuanced profiles: Digitally-immersed communicators, Asynchronous communicators, and Phone-enjoyers. The analysis emphasised that digital behaviour among seniors varied across lines of education, socioeconomic status, and prior exposure, calling for more refined digital policy frameworks that accommodate this diversity (Vulpe & Crăciun, 2020).

A research paper also explored how older adults interact with modern technologies such as smartphones, tablets, and the internet, categorising them into three groups based on their social context and technology usage. Seniors with regular family contact were more motivated to learn and use digital tools, while those living alone often adopted technology to maintain independence and communication. In contrast, older, isolated individuals tended to avoid technology due to fear, health limitations, or lack of perceived benefit. The study highlighted that while digital engagement can enhance social connection, mental activity, and self-esteem among seniors, its success depended on user-friendly design, confidence-building education, and supportive learning environments tailored to their specific needs (Vacek & Rybenská, 2017).

Social Isolation and loneliness can negatively affect a person's health. An Australian study reviewed 34 selected empirical studies to gauge the effectiveness of various types of technologies in alleviating social isolation amongst seniors. They concluded that "various technologies offer different possibilities and ways of engagement and, generally, most of them can be used to reduce social isolation and loneliness among seniors" (Khosravi et al., 2016).

Working on similar lines, a study analysed the increased risk of depression and loneliness amongst the senior citizens living in various care communities in Alabama. The researchers used regression analysis to determine the relationship between frequency of going online and isolation. It concluded that internet use may lead to less loneliness and more social contact among senior citizens living in assisted and independent living communities (Damant et al., 2016).

Researchers also investigated the determinants of Internet use by Tunisian and Romanian seniors, from varied economic and cultural backgrounds. It was found in the study that, cognitive age, familial loneliness and social anxiety were the most important factors that effected the internet usage patterns of older adults (Bouzaabia et al., 2016).

A researcher explored the relationship between use of social media technology and its impact on the physical and mental health of senior citizens. The study showed that loneliness was the mediator between technology use and health. More the technological use, lesser the loneliness and thus better health (Chopik, 2016).

In another study, researchers employed hierarchical regression analyses to reach the conclusion that online social activities of older adults were inversely related to the feeling of loneliness. The authors found that, "older adults'

online social activities were positively related to bridging social capital, belongingness and self-esteem, and negatively associated with the feeling of loneliness" (Zhang & Kaufman, 2015).

The use of technology has a positive impact on the social and economic life of the elderly. This was explained in a study that examined the Internet use by senior citizens and did a comparative study of male and female users through the technology acceptance model (TAM). Sample of 492 people over the age of 50 were analysed by using the multigroup approach of structural equations models. Through the study, the authors, revealed that, "male elders seem to perceive more usefulness due to higher levels of ease of use than woman." The results conclusively pointed out the difference in usage by male and female internet users (González et al., 2015).

A study conducted in Netherlands evaluated the results of an experiment that was initiated to decrease loneliness in chronically ill and physically handicapped senior citizens. According to the authors, "the computer and Internet were often used to pass the time, taking people's minds off their loneliness" (Fokkema & Knipscheer, 2007).

The reviewed literature collectively underscores the growing importance of ICT in mitigating the challenges of social isolation, loneliness, and cognitive decline among senior citizens. Studies from diverse global contexts reaffirm that digital tools can foster emotional well-being, improve health outcomes, and enhance quality of life for the elderly. Factors such as self-efficacy, motivation, social environment, and design accessibility emerge as critical enablers or barriers to ICT adoption. Moreover, the evidence highlights that technology engagement is not uniform across the elderly population; it varies based on gender, education, socioeconomic status, and proximity to family or caregivers. The literature also reveals that while many seniors have embraced technology for social communication, substantial gaps still exist in terms of digital literacy and comfort with more complex services. This underscores the urgent need for inclusive digital policies and tailored interventions to facilitate more widespread and meaningful ICT engagement among older adults, particularly in the Indian context where such research remains limited.

AIMS & OBJECTIVES

Assumption: Adaptability to ICT increases connect amongst senior citizens.

This research aims to look at the ICT usage by senior citizens of middle- and higher-income groups, residing in Delhi. The study analyses how this usage helps them connect socially with their families and the society around them. The researcher also aims to identify the reasons behind rejection of ICT tools and services by some of the urban older adults.

Following are the objectives of the study:

To explore the purpose and usage patterns of ICT among senior citizens

To identify the barriers faced by senior citizens while using ICT

To analyse the gender differentials in ICT usage pattern for social connect

To identify the factors for rejection of ICT adoption

Through this study the researcher tried to answer the following questions:

What is the purpose of use of ICT services by senior citizens?

What tools of ICT are used more than the others?

What are the benefits of ICT use by them?

What barriers do they face while using the internet?

And how this influences their use (and non-use)?

Is there a difference in pattern of usage between female users and male users?

Why have the non-users not adopted technology and its tools?

SIGNIFICANCE OF THE STUDY

The senior citizen population in the world and in India is on a constant rise for the past few years. They are a significant part of the society and in India it is expected that they would form more than 20% of the population by the year 2050. In such a scenario, it is imperative that there is a clear understanding of the problems that they face and also identify tools that can help them overcome these problems and improve their quality of life. Studies done in various countries suggest that the increased adoption of ICTs, internet based services, etc. helps the senior citizens to improve their social as well emotional connect with people and thus decrease loneliness. This research study aims to bring about a similar understanding of the impact of ICT in the lives of urban senior citizens in India. The study can also help in identification of problems and barriers that hinder the use of technology in current times. Today, when we are aiming for a Digital India, there is an urgent need to identify and solve the problems that even one section of the society faces while using technology. This study aims to help identify a few of those factors for the elderly in India.

The Ministry of Social justice and Empowerment, Government of India, issued a "National Policy on Senior Citizens" in January 1999. The Policy provided broad guidelines in various areas for helping senior citizens in the country to realize their full potential. Since then, there has been no updating of the policy and no new policy has been introduced to further the cause of senior citizen welfare. The study can be a small contributor in reshaping the existing policy or even help in constituting a new policy. Looking at the trend of rising senior citizen population, there is a significant need to relook at and introduce new National Policies for this substantial segment of our society.

RESEARCH DESIGN

Technology Acceptance Model (TAM) was used as a base to collect data for the proposed study. The TAM theory by Davis has been used in several studies to explore the usefulness of new technologies. Using the two key factors - Perceived Usefulness (PU) and Perceived ease-of-use (PEOU) – of the theory, data was collected to study the adaptability of ICT by the senior citizens in Delhi and also its usefulness.

To align with the TAM framework, the survey questionnaire was structured to map key constructs directly. Questions assessing Perceived Usefulness (PU) included: "Do you feel technology helps you stay socially connected?" and "Do online services simplify your daily tasks?". Perceived Ease of Use (PEOU) was evaluated through: "Do you require assistance while using the internet?", "How confident are you using ICT tools?", and "Do you fear making mistakes while using digital apps?". These targeted questions ensured the constructs were empirically tested, enabling consistency with TAM-based studies.

The population for this study consisted of people living in urban areas of Delhi and who are over 55 years of age. According to the census of year 2011, the urban senior citizen population of Delhi is 6.8% (Elderly in India, 2016). This is around 1120 thousand people. 0.0001%, that is, a 112 people of this population were targeted to gather data for the study. The study tried to reach out to an equal number of male and female members in order to get comprehensive data.

The study used survey method to collect data from a representative sample of the population, i.e. the urban senior citizens residing in Delhi. A questionnaire in English was administered either through e-mail or physically at places frequented by senior citizens, like offices; public places such temples, parks, meditation centers; senior citizen meeting rooms in various societies; in religious or other groups; senior citizen welfare associations, etc.

A second set of questionnaire was designed for senior citizens who are non-users of ICTs. It was administered in a manner similar to that of the users' survey. This survey was designed to gather data to understand why

certain set of people in the same age group have not adopted ICT use and what problems do they come across if they ever try to use them.

A total of 169 respondents completed the survey, of which 133 were users and 36 non-users. Out of these 155 (122 users and 33 non user) questionnaires were used for the final study. The rest were rejected due to incomplete information. Of the complete sample, 49% of the respondents were females and 51% males.

DATA ANALYSIS

In this study, Pearson's Chi square Test of Independence, Spearman's Rank Order Correlation Coefficient and T – Test were used to analyse the relationships between variables. Various social factors were compared with financial and emotional factors. The independent variables of Age, Education, Gender, Knowledge, Occupation, Income and the Family Structure were tested with various dependent factors like Use of Social Connectivity Tools, Use of Internet Services, Comfort Level, and Problems Faced. For the purpose of comparing factors like use of social connectivity tools, age was converted to nominal categories - Pre Retirement, Early Retirement, Late Retirement, Senior, Very Senior, Super Senior.

Table 1: Age – Nominal Categories

Age	Nominal	N	Percentage
55-60	Pre-Retirement	39	32%
61-65	Early Retirement	32	26%
66-70	Late Retirement	27	22%
71-75	Senior	12	10%
76-80	Very Senior	8	7%
>80	Super Senior	4	3%

RESULTS

Pattern of Internet Use

Of the 122 respondents 52% agreed that they were comfortable in using Internet, while 35% said they were comfortable to some extent. 69% of the respondents admitted to needing some help in operating Internet services at one point of time or the other. When asked about their knowledge of ICT, 53% people said that they had adequate knowledge to use the Internet, 39% had average knowledge, while 8% admitted to having low knowledge of Internet use. 56% of the respondents said that it was easy for them to learn internet use.

The average frequency of use for e-mails amongst the respondents was 4 hours a week, for Facebook 5 hours a week, video calling 3 hours a week and WhatsApp 8 hours a day.

Age as an influencing factor for Internet use

Age as an independent variable was tested against various dependent variables. Questions on Knowledge, Time Spent Online, Use of Social Connectivity Tools, Problems faced, Comfort level with Social Connectivity Tools and Internet Services were asked and the responses evaluated using the Chi square test. When Age was tested with knowledge levels, X^2 value came out to be 17.057 while the degree of freedom was 10 and thus the two tailed P value was 0.0731*. Amongst the usage of various social connectivity tools, Emails had a P value of 0.3719, Facebook as 0.9372, Video Calling as 0.1153. The P values were found to be not statistically significant and use of Email, Facebook and Video Calling were concluded to be independent of age. WhatsApp use had an extremely significant P value of 0.0087*** (X^2 = 15.427, DF = 5). Time spent using Email, Facebook and Video Calling were independent of Age (with P values of 0.2762, 0.9516 and 0.5258 respectively). Time spent on using WhatsApp on the other hand resulted in a X^2 value of 30.462, degree of freedom 20 and P value of 0.06271*. When tested with the comfort level of using various social connectivity tools, use of what's app, Video Calling, Internet banking and Cab Booking apps had statistically significant P values. Comfort level of using WhatsApp X^2 = 48.282, DF = 20, p-value = 0.0003884. Comfort Level of using Video Calls X^2 =30.757 DF=20, P value

= 0.0585**. Comfort level of Using Cab Booking Apps X^2 =29.681 DF=20, P value = 0.0752**. Comfort Level of using Internet Banking X^2 = 29.259, DF = 20, P-value = 0.08279**. Also, problems faced had a significant P value (0.0106) when compared with age.

Table 2: Age as an influencing factor

Criteria	X^2	DF	P Value
Knowledge	17.057	10	0.0731
Using What's App	15.427	5	0.0087
Time Spent on using What's App	30.462	20	0.06271
Comfort in using What's App	48.282	20	0.0003884
Comfort in using Video Calling	30.757	20	0.0585
Comfort in using Cab Booking	29.681	20	0.0752
Comfort in using Internet Banking	29.259	20	0.08279
Problems Faced	14.944	5	0.0106

Education Level

Educational qualifications of the respondents as an independent variable were tested with various dependent variables. Education level has a statistically significant relationship with knowledge to use internet, with a X^2 value of 11.827, DF 6 and P value of 0.06595**. Of the use of various Social Connectivity tools, Emails had a significant relationship with X^2 as 26.638, DF 8 and P value 0.0008164***. Other Social Connectivity tools - Facebook (P value 0.9859) WhatsApp (P value 0.583) and Video Calling (P value 0.3397) had no relationship with education levels. All the internet services tested - can booking apps, ticket booking, recharge, bill payments and internet banking had no significant statistical relationship with education of the respondents.

Table 3: Education Level - Chi Square Test

Criteria	X^2	DF	P Value
Knowledge	11.827	6	0.06595
Using e-mails	26.638	8	0.00816

The comfort level in using various social connectivity tools and internet services were also tested with educational qualifications using the Spearman's Rank Order Correlation Coefficient. The result showed a statistically significant relationship with some of the tools and services. Bill Payments done via the internet had an R value which equaled 0.2168844 and a P value of 0.0270*. Ticket booking also showed a statistical relationship with education of the respondent with R as 0.2401591 and P value as 0.018843*. The Other significant values were obtained for Recharge (R equaled 0.2610414 and P value was 0.0087**) and E-mail use (R value equaled 0.3004927 and P value 0.00175**).

Table 4: Education level – Spearman's Rank Order Correlation Coefficient

Criteria	R Value	P Value
Time Spent – Bill Pay	0.2168844	0.0270
Comfort – Ticketing	0.2401591	0.018843
Comfort – Emails	0.3004927	0.00175
Comfort – Recharge	0.2610414	0.0087

Knowledge to use ICT

Knowledge to use Internet and its related services was used as an independent variable and factors like use of social connectivity tools, use of services, problems faced, comfort level were tested using Chi square test. Use of all the social connectivity tools had statistically significant relationship with knowledge of the respondents. Emails X^2 equaled 19.888, DF as 2 and P value less than 0.0001***. Facebook X^2 14.384, DF 2 and P value as 0.0007527***. What's App X2 at 5.0562, DF 2 and P value 0.07981**. And Video Calling X^2 equaled 8.7187,

DF 2 and P value at 0.01279**. Also, the problems faced by respondents had a significant relationship to the knowledge level - X^2 equaled 22.822, DF at 2 and P value less than 0.0001***.

Table 5: Knowledge to use ICT

Criteria	X^2	DF	P Value
Using Emails	19.888	2	<0.0001
Using What's App	14.384	2	0.0007527
Using FB	5.0562	2	0.07981
Using VC	8.7187	2	0.01279
Problems Faced	22.822	2	<0.0001

Connecting with Family and Friends

Questions were asked to gauge the way senior citizens used internet and its services to connect with their family members and friends. 95% of the people said that the internet services helped them to connect with their family members, while 82% also said that it helped them to connect and remain in touch with old friends.

Occupation - Usage Patterns of Working and Non - Working People

Occupation of the respondents, that is, working, retired and homemakers was tested as an independent variable with knowledge, problems faced, time spent online, comfort level, etc. Knowledge to use internet had a significant relationship with Occupation, X^2 as 23.756, DF 4 and P value less than 0.0001***. Time spent on using Emails (P value 0.007837***) and Video Calling (P value 0.0482**) had a statistically significant relationship. Use of various social connectivity tools and Internet services showed a statistically significant relationship with the occupation of the respondents. Email use's X^2 equaled 28.5788, DF 8 and P value was placed at 0.000376***. For use of Internet services, the P values equaled – Cab booking apps, Ticket Booking and Recharge services at less than 0.0001***, Internet banking 0.0003444*** and Bill payments at 0.0008209***.

Table 6: Occupation

Criteria	X^2	DF	P Value
Knowledge	23.756	4	<0.0001
Time Spent – E-mails	20.752	8	0.007837
Time Spent – Video Calling	15.617	8	0.0482
Using E-mails	28.5788	8	0.000376
Using Cab Apps	32.071	8	<0.0001
Using Ticketing	42.089	8	<0.0001
Using Recharge Services	35.114	8	<0.0001
Using Internet Banking	28.795	8	0.0003444
Using Bill Payment	26.624	8	0.0008209

A T-Test was conducted by dividing the respondents into working and non – working groups. The two groups showed a difference in usage of e-mail services. Apart from that the two groups were equal in the usage and comfort level of all other services. The T-value obtained for e-mail use equaled t = 2.0606, DF 74, P value as 0.04286*. Of the working people 60% people accessed e-mails everyday while only 23% non-working people did the same.

Usage Patterns of Males and Females

Using gender as an independent variable, several dependent variables like use of social connectivity tools, use of internet-based services, problems faced, comfort level, etc were tested using Chi square. The use of e-mail services showed a statistically significant relationship to gender. The X^2 value equaled 4.006, DF as 1 and P-value as 0.04534*. The frequency of use of WhatsApp services showed a statistical relationship to gender with

X^2 value as 8.6682, DF as 4 and P value as 0.06995*. For comfort level to use Emails X^2 value equaled 13.732, DF as 4 and P-value as 0.008201**. For Ticket Booking the Chi square Test P value equaled 0.001009**, for Internet banking 0.008177**, Recharge facilities 0.003626**, Bill payments 0.001125**.

Table 7: Gender

Criteria	X^2	DF	P Value
Using E-mails	4.006	1	0.04534
Freq. of Use - WA	8.6682	4	0.06995
Comfort – E-mails	13.732	4	0.008201
Comfort - Ticketing	18.447	4	0.001009
Comfort - Recharge	15.587	4	0.008177
Comfort - Internet Banking	13.739	4	0.003626
Comfort - Bill Payment	18.2016	4	0.001125

Also, the frequency of use of social connectivity tools and internet services for male and female respondents was tested using the T-Test. Frequency of use for E-mails showed a statistically significant difference between both the groups. The T-value equaled 2.2867, DF as 91 and P Value 0.02453*. In this group, 90% males and 75% females use e-mail services. Also, 48% of the men checked their e-mails every day, while only 25% females did the same.

The Non – Users

Of all the Internet Non user respondents, 61% said that they had never even tried to use the internet. The remaining 39% although did not presently use internet services, had tried to use it at one point of time or the other. Also, 61% of the people agreed that they faced problems when they had tried to use internet services. Of these, 9% people faced problems due to lack of knowledge, 27% found it difficult to understand, and 18% had either no training or needed more training to use ICT services.

DISCUSSIONS

The study examined the role of ICT in the lives of senior citizens. The primary objective of the study was to understand the role that internet services play in helping senior citizens connect socially. Using age, education, gender and occupation as covariates, the study helped to analyse the relationship with ease of use and problems faced while using the internet services. More than half of the respondents of the study agreed to be comfortable with using internet services. They also agreed to have adequate knowledge to operate various ICT tools. The study found some important relationships between a few socio demographic factors and internet use. Age has a significant relationship with the knowledge to use internet services. It also showed a relationship with the way the respondents used WhatsApp services.

The education level of the respondents was a major influencer of internet use. It had an impact on the knowledge to use ICT services and the use of various services like, emails, ticket booking and recharge services.

The knowledge to use Internet and its related tools had an impact on almost all the services. This includes WhatsApp, e-mails, Facebook and video calling services.

Occupation of senior citizens was a major influencing factor in various aspects of internet use. It showed a highly significant link to the knowledge of Internet use and the services accessed. The time spent online on using emails and making video calls was substantially linked to the work of the person. Also, the use of emails and Internet provided services – cab bookings, ticket bookings, internet banking, bill payments and recharge was significantly linked to the occupation of people.

Also, the occupation of the respondents (as in working or non-working people) also had a direct influence on the use and frequency of e-mail services.

Another important aspect of the study was to understand the problems faced by senior citizens while using ICT services. More than two-third of the respondents agreed to needing help at some point of time or the other to operate internet related services. Age and knowledge to use the internet showed a significantly high relationship with problems faced by senior citizens. Those who admitted to needing help and facing problems, stated lack of technological understanding as the major reason for the difficulties faced.

When comparing the usage patterns of the male and female respondents, there were no significant differences found. E-mail use was the only service that showed a difference in use for both the genders.

Amongst the non-users of internet most of the people had never even tried to use internet and its related services. And even if they had taken the initiative at any time, they faced problems which discouraged them to further use the technology. Majority of the respondents in this group cited a lack of technological know-how, need and an unwillingness to learn as the major reasons for not using ICT.

The main aim of the senior citizens while using ICT services is to stay in touch and be connected to their family and friends. E-mails, what's App, Facebook, Video calls, all facilitate this desire to be connected to the people far and near. Another important reason for using Internet services is to make life easier, by using at home services like internet banking, bill payments, recharge facilities and cab booking apps.

The results clearly align with the constructs of TAM. Senior citizens who reported ease in navigating apps like WhatsApp and using services like online banking demonstrated higher perceived usefulness and greater social connectivity. Conversely, those citing fear of mistakes, lack of confidence, or difficulty in understanding digital tools reflected lower perceived ease of use (PEOU), often leading to rejection or minimal use. From a socio-gerontological perspective, this aligns with theories emphasising aging-related declines in cognitive flexibility and increased technology anxiety. These theoretical integrations enrich the understanding of user behaviour beyond statistical significance.

CONCLUSION

This study demonstrates that ICT adoption among India's urban senior citizens is increasing, largely driven by the need for social connection and convenience in managing daily tasks. Tools such as WhatsApp, video calls, and online banking were found to play a pivotal role in facilitating both emotional wellbeing and functional independence. Yet, the research also identifies significant challenges: digital illiteracy, fear of making mistakes, limited confidence, and lack of targeted support systems. These barriers directly correlate with the Technology Acceptance Model (TAM) dimensions—with fear and difficulty in usage reducing perceived ease of use (PEOU), while social benefits reinforce perceived usefulness (PU).

Moreover, the findings align with socio-gerontological theories that link cognitive aging and technology anxiety to technology rejection or hesitation. Therefore, bridging the digital divide for this demographic requires more than access; it calls for age-sensitive design, contextual learning, and psychological reassurance. The study recommends implementing structured digital literacy programs, intergenerational mentoring in communities, and ICT helpdesks tailored to the elderly. National policy should prioritise age-inclusive technology strategies within broader Digital India initiatives. By addressing psychological, cognitive, and usability barriers, India can foster a digitally inclusive environment where the elderly are not just connected, but empowered.

Scope of the Study

The current study had an upper income urban skew. For future research, a comparative study comparing the ICT usage of urban and rural senior citizens can be undertaken. Also, another aspect that can be researched is to compare the lower income segment with the middle- and higher-income segments of the demographic.

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