



The Bnnefits and Barriers of Technology Faced By Aged Population

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Abstract:

United Nations Department of Economic and Social Affairs points out that with the increasing population older persons are a growing demographic group in society. All societies in the world are in this midst of this longevity revolution. Every society will pass through the transition, in which the chance of surviving to age 65 rises. This paper 'The benefits and barriers of technology faced by aged population' looks at the motives of the elderly in using technology in their daily lives and also the impact of technology to support their quality of life. The method used for the present research is qualitative research where descriptive research analysis was also used with the source of information being based on secondary data. This study explores the fact that older adults combine the use of technology with feelings. Some use it to meet their ends whereas some use it to feel inclusive and enlightened and be connected to the outside world. These modern technologies like the tablets, smart phones, and other assistive technologies like ambient assisted living have helped the senior citizen in many ways. Through this technology they feel less isolated and more creative. However, the lack of confidence or the physical disabilities to access the technology or the expenses to afford such technology acts as a barrier in smooth use of modern technologies. But helping the older adults with new technology as well as teaching them to use it might help to enhance their technological capabilities and confidence.

Keywords: older adults, motives, quality of life, technology.

INTRODUCTION

United Nations Department of Economic and Social Affairs points out that with the increasing population older persons are a growing demographic group in society. Older people account for more than one fifth of the population in 17 countries and the United Nations Department of Economic and Social Affairs Population Division's projections is that to the end of the century this will be the case in 2100 for 155 countries,

covering a majority 61 %of the world's population. World Population Prospects 2019, points out that by 2050, 1 in 6 people in the world will be over the age of 65, up from 1 in 11 in 2019. All societies in the world are in this midst of this longevity revolution. Every society will pass through the transition, in which the chance of surviving to age 65 rises. According to NCBI some studies have classified older adults in the following manner they are as follows: i) youngest old comprises of the ages between 65 and 74 years ii) Middle old comprises of the age over 84 years and iii) Oldest old comprises of the age over 85 years. Henceforth, Population ageing is a global phenomenon that is virtually every country in the world is experiencing growth in the size and proportion of older persons in their population this is known as aged population. Population ageing points out the development in public health, medical advancements, economic and social development over the diseases that have limited human life spans in the past.

For years, technology has been employed by individuals to manage their day-to-day activities. Oxford English dictionary defines technology as the application of scientific knowledge for practical purposes or machinery or equipment developed from this knowledge. However, Gordon Marshall in Oxford dictionary of sociology explains technology as a term used rather loosely in sociology, to mean either machines, equipment, and possibly the productive technique associated with them; or a sort of social relationship dictated by the technical organization and mechanization of work. Old age people as technology users, explores the motives of the elderly in using technology in their daily lives. Modern technology for older people might seem like a daunting place. However, an understanding of the internet can make such an enormous difference to their day-to-day life. The worldwide web is still relatively young, which means older people haven't had the chance to grow up with the way younger generations have.

Older adults are now embracing modern technology more. In fact, according to the Office for National Statistics, 67% of adults over 65 are using the internet. Older people aren't just using their computers but, they're branching out into mobile phones and tablets too.

According to Adults' Media Use and Attitudes report 2018, more than a quarter of people over the age of 75 use tablets – an increase of 15% from 2015. The same report found that 32% of people aged over 75 have a social media account. The internet provides a range of opportunity for older people.

With an internet connection the older adults can:

- Order their weekly groceries direct from their household.
- They can video chat with your friends and family over Zoom or Skype.
- They can share photographs on social media websites.
- They can also play video games with friends which will keep their brain activities in the process.
- They can also organise all their bills and bank accounts.

The internet can help to prevent boredom, keep one connected with friends and family and help one to stay organised. It would be wrong to assume that older people don't use technology. Mobile phones are becoming more important for older people as there is a shift from traditional landline phone connections to mobile phones. Despite what one may assume, mobile phones and smartphones need not be complicated. There are devices that have been specifically designed for older adults. The most common type is the big button phone, making them easier to use for people with arthritis or sight issues, and clear bright screens with big font sizes. Other simple useful accessories found in mobile phones is a torch. These devices help one to stay safe, entertained, and connected to one's friends and family. 'App' in short application is denoted as 'App', it is a computer program. Different apps give people access to different kinds of information or games without having to visit a website. This makes the process much simpler and quicker.

Rationale of the study

Older adults are a growing demographic group in society. The society is shifting to more modern technologies. Modern technology for older people might seem like a daunting place. However, an understanding of the internet can make such an enormous difference to their day-to-day life. The worldwide web is still relatively young, which means older people haven't had the chance to grow up with the way younger generations have. Hence it becomes important for the researcher to study about the opportunities as well as barriers faced by older adults while using different technologies and to analyse the relationship the older adults have developed with technology.

The above topic 'The benefits and barriers of technology faced by aged population' falls under the purview of gerontology. This paper aims to look at the motives of the elderly in using technology in their daily lives and also the impact of technology to support their quality of life.

REVIEW OF LITERATURE

A literature review is a type of review of article. A literature is a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a topic. Literature review are secondary sources, and do not report new or original experimental work. (Akanoh, 2015)

According to the paper 'Older Adults' Reasons for Using Technology while Aging in Place' by Peek,Luijkx, Nieboer et al.(2015),which conducted a field study that involved home visits to 53 community-dwelling older adults, aged 68-95 in Netherlands. Here, the participants list out the reasons for using technology that is important for independent living, like the ability to perform daily tasks, communicate with others and to stay physically active. The social networking technology has increased interaction between the participants and their grandchildren. The participants are also of the view that the physical environment also plays an important aspect for using technology.

A qualitative-orientated research study was conducted in Munich where thirty-one men and women of at least 60years were interviewed about their motives to use technology. It was witnessed that they use technology less because of its functions than on the meanings associated with it. For some participants technology is interpreted primarily as a means to an end that is it combines the use of technology with feelings. However, some elderly prefers to have their own technical skills as based on this, they consider themselves as open-minded, progressive, mentally flexible, and educated. Along with this, the participants view communication media to compensate their physical absence through their social media network that has transformed into a location-independent, and has given them an interactive presence, which is associated with a feeling of affiliation and belonging. Henceforth, their meanings attached to technology are partially affected by culture and society, and also by their everyday applications. (Hoffmeister 2016)

Assistive technologies like Ambient Assisted Living (AAL) refers mainly to smart and intelligent technologies that enable elderly persons to stay independent and self-determined in various areas of their life, such as health, housing, mobility, security and communication. It enables persons to lead an independent life at home instead of in nursing institutions, to be mobile instead of confined in bed, open-minded instead of stubborn, socially and physically active instead of secluded. These technologies are supposed to remind their users to take their pills at the right time, control

their household devices, monitor their bio-medical parameters or organize their daily activities. Although it might be useful for everyone to have a control system of his or her daily activities, this seems to be especially useful for older people. (Endter, 2016)

The paper entitled 'Older Adults Perceptions of Technology and Barriers to Interacting with Tablet Computers: A Focus Group Study' (Vaportzis, Clausen and Gow, 2017) conducted in the Heriot-Watt University, Edinburgh. Here, eighteen older adults aged from 65–76 years out of which 83.3% was female were novice tablet users participated in discussions about their perceptions of and barriers to interacting with tablets. The majority of the participants were eager to learn to use new technology. However, they voiced their apprehension about unclear instructions, lack of knowledge, lack of confidence, and the expense. Though the participants feel that there is lack of social interaction among the younger generations due to the use of modern technology but however they feel that by using tablets there is easier access to information and the feeling of being left out is also gone.

Dhar (2017) conducted a study in Kolkata where he found that health care sector, new media plays an important role by providing the ease of access information about health education, awareness on preventive strategies and so on. The basic new media tools such as mobile phones with medical alert systems can be lifesaving for a senior citizen. Technology is important for the daily life and if implemented properly can help the ageing population in diverse ways. Lack of positive creative role in the society after retirement can have an impact on the health or the social status of the aged. Here, new media can come to the aid providing the platform for social role giving them back the sense of self-pride, self-esteem and self-worth. Hence, the study points out to the fact that, the ageing population in cities have access to new media technologies and remain constantly in touch with their progenies. In a way it can be said that new media can play a role in enriching lives of the older people by providing the purpose and scope for creative productivity.

Several barriers of technologies are faced by older adults. These include: physical difficulties to utilizing innovation, troubles figuring out how to use new technology, Sceptical attitudes about the benefits of technology howsoever, helping the older adults with new technology as well as teaching them to use it enhances their technological capabilities and confidence (Maini, Vijay, 2018)

According to the paper 'The Design of New Technology Supporting

Wellbeing, Independence and Social Participation, for Older Adults Domiciled in Residential Homes and/or Assisted Living Communities' by Cahill, McLoughlin and Wetherall (2018) new assisted-living technology can promote social connection and enhance relationships/communications. Such technology provides an opportunity to bridge information gaps between care planning, care assessments and daily care by taking inputs from the resident or family members in relation to resident's need, what matters to the resident and typical daily routine/habits and the outcome of relevant assessments like the activities of daily living, nutrition, medication, cognitive, social and behavioural activities. This daily care information can be used to set the schedule for assessments and further, such information from assessments can be funnelled to caregivers to support both care planning and daily care.

Regardless of gender the willingness to use technology that are health-related assistance systems in domestic environments are more among the elderly and chronically ill people. Their opinions were possibly influenced by the fact that to them technology is meant to be directly accessible in their living room and customised for their personal needs, allowing the individual to cope easier with their particular disease. Hence, elder adults acknowledge the eHealth system as a useful, enriching, and sensible facility. Looking for health information is the third-most popular activity among older adults aged 65 years, behind only email use and searching for general information. Older adults greatly benefit from ICT, as these devices and applications give unprecedented access to information on a variety of topics like health, entertainment, financial considerations, education, etc. as well as a new communication avenue to connect or reconnect with social ties and also foster new ties. Those who use the internet experience less loneliness, increased life satisfaction and psychological well-being Yet despite the benefits of ICT use, older adults are less likely to be online compared to younger age groups. This is because older adults tend to have less experience and fewer skills associated with ICT use and they may also lack the confidence to learn to use ICTs or lack the social or technical support to promote learning Thus, the significant barriers to successful use of ICT and conducting successful searches are because of physical limitations (vision, motor skills), cognitive issues or impairment, decreased literacy (health literacy, numeracy, digital literacy), and negative attitudes toward technology. However, the benefit of technology training gave the senior citizen a more positive attitudes toward technology, fewer limitations to using ICTs, and decreased feelings of

loneliness. Technology training interventions can provide older adults who lack the confidence or appropriate physical or cognitive resources to learn and to use ICTs more effectively. (Pak and McLaughlin, 2018)

Acceptance of technology can be viewed as the intention to use a technology or make effective use of it. The degree of acceptance of the use of technologies was measured through a scale based on the TAM (technology acceptance model) in western Spain with a population sample over 64 years. Majorly participants with strong magnitudes of association for both primary and secondary education, and who are also living alone were more acceptable to use of technologies. (Díaz, García, Antonio et.al.2022)

According to the paper ‘Perceptions of In-home Monitoring Technology for Activities of Daily Living: Semi structured Interview Study with Community-Dwelling Older Adults’ by Camp, Hunter, Johnston et.al. (2022) many older adults prefer to remain in their own houses for as long as possible. The participants in this study were divided into younger group (aged 55-69 years) and an older group (over 70 years). The older group considered several activities to be more important like stair use, foot care. They had less existing knowledge of monitoring technology but were willing to accept wearable sensors whereas the younger group preferred sensors placed within the home and wouldn’t have wearable sensors until and unless they feel that the daily life was becoming a struggle.

METHODOLOGY

Methodology refers to the theoretical analysis of the methods appropriate to a field of study or the body of methods and principles, particular to a branch of knowledge. It includes the process of theory construction, the interrelation between theory and research and empirical investigation. Thus, methodology states the conceptual and ideological procedure by which knowledge is built. Methodology is very important for any kind of scientific research. It is a principal of methods, rules and postulates used by any discipline. Methodology is a logic of scientific investigation. It means description, explanation and justification of methods and not the methods themselves. It refers to philosophy on which research is based. This includes assumptions and values that serve as basis for research and are used for interviewing data and reaching conclusions.

The particular procedure that is used to accomplish or approach something, especially a systematic and an established one is called a method. It is a technique, or mode of inquiry employed to a particular discipline. In short

it is a tool or a technique used to collect data and the procedure for obtaining knowledge based on empirical observations and logical reasoning.

Data which is collected from first hand sources by a researcher, by using methods like survey, face to face interview to name a few is called primary data. However secondary data is the data which is gathered from studies, surveys which have been studied by other people or for another research. Here, in this study the researcher is using secondary sources for data collection. The researcher in this study has utilized peer reviewed articles, journals, and book chapters.

Objectivise of the study:

The objectives of the following study ‘The benefits and barriers of technology faced by aged population’ are as follows:

1. To study the motives of the older adults in using technology.
2. To look into the opportunities and barriers faced by older adults by using technology.

ANALYSIS

The motives of older adults to use technology is because it is important for independent living. The senior citizens interpret technology primarily as a means to an end that is, they combine the use of technology with feelings. Some elderly prefers to have their own technical skills as because by having a knowledge about technical skills they feel themselves to be an open-minded, progressive, mentally flexible, and educated person of the society. The older adults also view the knowledge of technological skills specially communication media compensating their physical absence through their social media network that has transformed into a location-independent, and has given them an interactive presence, which is associated with a feeling of affiliation and belonging. The older group (over 70 years) considers several activities like stair use, foot care to be important and since they have less existing knowledge of monitoring technology, they were willing to accept wearable sensors that will be helpful for the elderly person to get the service he or she wants. Howsoever, the younger group (aged 55-69 years) in comparison to older group is much more knowledgeable about technology and more physically active thus wants sensors placed within the home and not wearable sensors until and unless they feel that the daily life was becoming a struggle. The willingness to use technology that are health-related assistance systems in domestic environments are more preferable among the elderly and chronically ill people as for them technology is able to provide direct

accessibility in their living room and can customise their personal needs thus, allowing the individual to cope easier with their particular disease and also not to be dependent on others. Hence, elder adults acknowledge the eHealth system as a useful, enriching, and sensible facility. Hitherto, the motives for the older adults to use technology is to have the ability to perform daily tasks, communicate with others and to stay physically active. (Peek, Luijkx, Nieboer et al.2015; Hoffmeister 2016; Pak and McLaughlin, 2018; Camp, Hunter, Johnston et.al. 2022).

Assistive technologies like Ambient Assisted Living (AAL) refers mainly to smart and intelligent technologies that enable elderly persons to stay independent and self-determined in various areas of their life, these new assisted-living technology can promote social connection and enhance relationships or communications. Such technology provides an opportunity to bridge information gaps between care planning, care assessments and daily care as these technologies help to remind their users to take their pills at the right time, control their household devices, monitor their bio-medical parameters or organize their daily activities.

New media plays an important role by providing the ease of access information about health education, awareness on preventive strategies and so on. Tablets, mobile phones with medical alert systems for example are basic new media tools that act as lifesaving for a senior citizen. Technology helps the older adults to be creative, less loneliness, to increased life satisfaction and their psychological well-being after their retirement. Hence, older adults greatly benefit from ICT, as these devices and applications give unprecedented access to information on a variety of topics like health, entertainment, financial considerations, education, etc. as well as a new communication avenue to connect or reconnect with social ties and also foster new ties. (Endter 2016; Vaportzis, Clausen and Gow, 2017; Dhar 2017; Pak and McLaughlin, 2018; Cahill, McLoughlin and Wetherall 2018).

Despite the benefits of technology faced by the older adults the older adults voice their apprehension about unclear instructions, lack of knowledge, lack of confidence, and the expense of using new technology. Even their physical limitations (vision, motor skills), cognitive issues or impairment, decreased literacy (health literacy, numeracy, digital literacy), and negative attitudes toward technology becomes the significant barriers to successful use of modern technology. Howsoever, helping the older adults with new technology as well as teaching them to use it will enhance their technological capabilities and confidence. (Maini, Vijay, 2017; Vaportzis, Clausen and Gow, 2017; Pak and McLaughlin, 2018)

Thus, it can be pointed out that older adults combine the use of technology with feelings. Some use it to meet their ends whereas some use it to feel inclusive and enlightened and be connected to the outside world. These modern technologies like the tablets, smart phones, eHealth and other assistive technologies like ambient assisted living have helped the senior citizen in many ways. Through this technology they feel less isolated and more creative. However, the lack of confidence or the physical disabilities to access the technology or the expenses to afford such technology acts as a barrier in smooth use of modern technologies. But helping the older adults with new technology as well as teaching them to use it might help to enhance their technological capabilities and confidence.

CONCLUSION

United Nations Department of Economic and Social Affairs points out that with the increasing population older persons are a growing demographic group in society. All societies in the world are in this midst of this longevity revolution. Every society will pass through the transition, in which the chance of surviving to age 65 rises. The paper 'The benefits and barriers of technology faced by aged population' looks at the motives of the elderly in using technology in their daily lives and also the impact of technology to support their quality of life.

The present study 'The benefits and barriers of technology faced by aged population' was undertaken keeping the following objectives in mind - to study the motives of the older adults in using technology and to look into the opportunities and barriers faced by older adults by using technology. The main question that the researcher intended to study was: How technology is posing opportunities as well as barriers to older adults? From the above study, it was observed that, modern technology, the internet for senior citizen might at first seem to be daunting place to begin with. However, an understanding or knowledge about the internet can make an enormous difference to their daily lives. With the fast pace of life technology is also changing rapidly. In the midst of this change it will be wrong to assume that aged population is still not using technology. Rather the scenario is quite opposite. Older adults combine the use of technology with feelings. Some use it to meet their ends whereas some use it to feel inclusive and enlightened and be connected to the outside world. These modern technologies like the tablets, smart phones, eHealth and other assistive technologies like ambient assisted living have helped the senior citizen in many ways. Through this technology they feel less isolated and more creative. It is because of different communication medias the older

adults have more social connection through video chat, skype, or Internet-based communication channels such as email and social media networks, these tend to compensate their physical absence through their social media network and other services that has transformed into a location-independent, and has given them an interactive presence, which is associated with a feeling of affiliation and belonging. It is because of modern technology older adults living alone can get help with one push of a button, different smartphone applications can help older adult to track their medication, it also helps the older adults and the care provider to maintain and access their health information such as medical history, physician's contacts, medication schedules, and health conditions. Henceforth the use of modern technology gives ample amount of opportunity to older adults to provide better quality of life, feeling included and enhancing the social connection with their near and dear ones as well as fostering new ones.

However, the lack of confidence or the physical disabilities to access the technology or the expenses to afford such technology acts as a barrier in smooth use of modern technologies. A number of issues that discouraged older people from using modern technology are the feelings of inadequacy and comparison with younger generations, negative attitude toward the technology, perceived dangers of technological equipment. Though in some cases technology does pose as a barrier to older adults but these obstacles can be overturned by helping the older adults with new technology as well as teaching them to use it might help to enhance their technological capabilities and confidence. It is important for older adults to have technological knowledge but they should not be rushed rather they should learn it in their own pace. More encouragement by their peers, family members are needed and also the younger generation like their grandchildren can help the elder people in learning the technological knowledge that can also in a way enhance the general understanding between the generation.

Henceforth, despite the barriers faced by the older adults while using technology, the very technology helps the older adults in their daily life activities from staying connected to their friends and family to assembling their bills, groceries, medical appointments, alarming to consume medicines at a specific time and to keep the older adults creative and engaged with their life.

However, the present study has some limitations. It deals with only secondary data and there was limited amount of secondary data on this

topic especially in the Indian rural context. Due to lack of time and financial issues the study could not be conducted in the wide scale and hence was limited to secondary data. However, this study has a wide scope in itself. Further research can be done on the gender differences among the elderly people in using technology as well as studies can be conducted to see the participation of older adults in different dating sites and role of it in their lives. Researchers can also delve in to look into the success of modern technology old age users in rural India.

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