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UNDERSTANDING THE ELDERLY'S TECHNOLOGICAL REQUIREMENTS AND NEEDS

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Acknowledgments

Abstract

The goal of the research is to discover the ways technologies is being utilized in the health preservation and population health for better life quality for the older people. The authors looked for proof that technological interventions improve seniors' health in all areas, from the biological to the mental and social. We achieved this by framing health and dying as processes inherent to the human condition, the changes associated with which must be accommodated for in the preceding context chapter. To that end, we explore health as a concept, focusing on the health of the elderly, and provide a comprehensive list of strategies for fostering that health. Technology, its ongoing developments, and their applications in elder care, as well as their effects on the responsibilities of healthcare providers, were another key area of investigation. Under this category we present sorts of assistive gadgets sorted according to their primary purpose. Finally, we integrated the ideas of health, aging, and technology, as well as the connections between them, as resources and methods for improving the quality of life for the aged. Dorothea Orem's self-care deficiency hypothesis, often known as Orem's model of nursing, is the theoretical foundation of this thesis. The technique, data collection, and analytic description are all presented in chapter four, with findings presented in chapter five. The discourse and conclusions parts represent the final effort.

Contents

Chapter 1: Introduction

1.1 Overview

In the terms of the modern era, there has been growth and rapid increase in the utilization of technology in many fields of work that would help the generations of the future and the present to have ease in the process of doing their work. While characterization has determined that the new generations are much more technology-reliant and constant users of technology in the everyday life in terms of technology used for communication and mobility but the research has determined in the literature review below that the people that are of age and old are from the generations that are not much into using the technology and used to interact in the form of technology usage. This research has been specifically created in terms of determining the process which would help in the terms of understanding the challenges, issues, and solutions to the same older generation that are now in the form that requires additional assistance and better care over a major part of their lives and thus this was the part and role of technology increases and efficiently would help the elders. Technology has seen growth in terms of improving medical care, communication, and all fields that we have known existed. This means that the projection of utilization of technology to assist and provide for the people in need is much more effective. The research has been better explained in the work that has been shown below. The rationale and the problem that is under the concentration of the research have been provided below.

1.2 Rationale and Problem Specification

The senior population's usage of modern technologies helps greatly to a higher quality of life by enhancing everyday living aspects such as transportation, communication, and social participation. However, the use of technology by older persons varies greatly. It is critical to investigate which factors determine the level of usage of various types of technology by older persons who are aging in place, as well as how they respond to each technological progress, to identify and resolve the issues they face for a better quality of life. This means that at any given point the medical assistance and requirement of the people that require the medical care and assistance due to the increase of approach which would help in the process of accepting that the older generation that has now not been able to have a sufficient approach and working capacity is now in need of getting their terms of technical support and the defined benefits that we have been utilizing towards better usage. While the problem with such situation and procedure in the research concludes that there is a need to have an impact in

terms of understanding the critical needs and the complexity of the support which is required in the elder people, this also means that there has been an approach towards increasing the effectiveness of the process in which the elders have faced many challenges which have been defined and provided through the research in the following research. While the overall determination of the research would be towards improving the process of the work that has been done in better understanding of information and technology to help the people in need with problems and challenges that could be eased with the effective utilization of the technology and supportive behavior in terms of teaching and creating methods that would help in the process of better solution and challenges to the elders.

1.3 Aim and Objectives

1.3.1 Aim

This proposed study aims to understand the need and requirements of the technology introduced in the life of elder people, especially focused on Mobility and Communications aid.

1.3.2 Objective

The objective of the proposed research are as follows;

- To understand and analyze the elderly people's (especially people with dementia, and elder people of age 65+) technology needs and requirements in mobility and communications.
- To identify the relationship between the elder's use of technology and their response towards each technological aid provided for mobility and communications.
- To determine the factors that influence the elder's life with the use of technology.
- To determine the challenges faced by the elderly to use the technology efficiently.
- To illustrate the strategies to overcome those challenges for the elder ones' use of technology.

1.4 Outline of the dissertation

This dissertation is organized in a structure through which it has been determined to follow the presented educational structure that has been academically designed in the process of constructing the process of better management of the process. The creation of the process through which the research has been done, it remains to determine that there is an approach of outline that would be understood in the form of summarised view.

Chapter 1 has been an introductory process of the overall work that has been done in the process of understanding the topic process as per the information it has been understood that the introduction conveys importance towards the topic of conclusive work which has been related to understanding the importance of the elderly communication and the process of the communication and mobility approach in the elders. Overall the research has been understood towards creating an effective technological aspect of the process in which the work that would be done in the research has been focused to create an effective working based on better needs and wants to define the elderly people, while in terms of the construction of the research the work has been determined and conclusive towards defining the process of the work in the form of a dissertation, this improves the work of analysis and research towards better management of the working and determining the aspect of the work in small working and better understanding to the viewer in disguise to understand in a simple form.

Chapter 2 explores the concept of major theories and the past work that has been done in terms of the aim that has been set in the research, this means that the main focus of chapter two has been on the literature review which would help in the process of research and empirical work that sets in defining the base of the work that has been done on the similar topic, it would help in setting the base of the work and major keywords that are part of chapter two are elder people usage of technology, determination of challenges that the elder people face in terms of communication and mobility, the better usage of technology in terms of providing solutions towards such issues that would help the research.

Chapter 3 defines the process of the structure and the work breakdown structure that would be used throughout the research. The main and important part of research is the approach and methodology that would be taken into the consideration. There has been a concentration on the approach, specified method of data collection, and types of research design that would be undertaken.

Chapter 4 delivers the importance of defining the aspect of the terminology that has helped in the construction of product development and the research implementation of that process, the main motive and focus of such work have been to create an impact on the importance of report designing and the process that would help in the aspect of determining the data visualization and preparation of the aspect that would help in the similar aspect of the work in the research.

Chapter 5 describes the process of presenting the interpreted results of the past work in chapter 4 which has been to visualize the data collected while in the form of the work chapter 5 focuses on the outcome that has been driven and claimed through the work of the result declaration of the results. This chapter plays an important role as the research which has been done would now determine the consequences and the result that would be driven through the work.

Chapter 6 discusses the product evaluation terminology that has been determined to present the information of the analysis towards the research aim and provide a detailed analysis of the overall work that has been done in the research. While in the concentrated terminology this part of the research chapter can provide the outcome and assumptions to compare with each other.

Finally, **Chapter 7** critically evaluates the conclusion of the research by providing recommendations and the overall summarization of the work that has been done in the research. It is also the fruitful part through which we provide future work possibilities in the work and the conclusive work that has been accomplished through the research.

Chapter 2: Literature Review

2.1 Technological Needs in terms of Communication and Mobility

Specific Requirements, Technologically Speaking, Regarding Communication and Mobility technology has been taken as an aim that has been understood to link people and enhance their lives as it implements automation and understands the requirements of the people while completing the demand as it is outlined in the process. This objective has been taken into consideration. When it comes to their requirements, it has been shown Christensen et al., (2021), that elderly people need assistance with both communication and mobility in their life to fulfill their requirements. There is a wide variety of technology available now that assists seniors in bettering their communication skills. Elders have a greater propensity to experience an increase in their vulnerabilities, such as the possibility that their eyesight will worsen, the possibility that their hearing will be affected, and even the possibility that they will experience a process that prevents them from moving around as much as they once did due to the deterioration of their bones and the inability of their bodies to supply enough of the necessary elements to improve their health. This is the situation in which the improvement in their access to communication and movement brought about by technology may be seen. According to Van Boekel et al. (2019), communication and technology have been determined to create an important impact that has been determined to ease and benefits that have improved due to utilization of the technology usage in the elderly. This impact has been defined to create an important impact that has been determined to ease and benefits that have improved due to the utilization of technology usage in the elderly. According to the author, it has been determined and understood that the most important part of the construction of the research demonstrates that there are significant benefits and improvements in the lives of elderly people who require companionship and aspects that would support them. This has been determined and understood. There are several significant advantages, one of which is that technology enables elderly people to have a positive outlook while also enabling them to establish a secure environment and maintain some degree of freedom in the way they live.

According to the research and thesis that covers the importance of technology supporting the importance in the mobility of older people or people of old age by helping them in terms of medical support that utilizes the aspect of improving their aspect of better management of their health issues while being automatic towards creating an improvement in the set schedule by following it and ensuring that they can monitor the situation as per the requirements,

technology plays an important role in assisting the mobility of older people or people of old age through helping them in terms of medical support that utilizes the aspect of According to De Belen et al. (2019), the work supplies vital information while also providing support for the aforementioned assertion in consideration of the working capacity towards the psychological and physical consequence of producing a significance to the original part of assisting them in terms. The author believes that technology has helped initiate the process of better management and inclusion of the process that would help in creating better sustainability towards improving the aspect of monitoring the health and creating a process of health and support for the person who is in need. He or she believes that this is a trend that should be supported. The communication component raises the possibility of significantly enhancing the vital statement of managing the health of older people by utilizing notification and monitoring of the element that contributes to managing the health of older people following their living type. This indicates that at any given position, technologies such as devices that monitor health have the ability towards the significance of the aspect of giving notification and detecting the aspect of creating a critical aspect of better living in the terms of assisting the elderly for similar position.

There are many different facets of advantages that may be gained via communication as the key imperative that enhances the influence towards generating technological development as the major role player for the comparable element. To gain an understanding of the significance of information and communication, the author provides the following information: "while the elements have helped people to reach others and fields that are beyond their reach, they have also enabled to help in terms of creating a better understanding towards the critical assertion of better management of the situation through which it helps in enabling the situation through which there has been an improvement in terms of critical situation which is..." "while the elements have helped in people to reach others and fields that are beyond their reach, they have also enabled to

It has been understood by the work of Sespiani and Ernungtyas, (2022), that mobility is important. In their work, they have provided information about the rapid change and impact that technology has on the lives of elders. While this has been understood, it has also been understood that technology has an impact. This indicates that they have shown their support for the depiction of technology as the fundamental introduction of the process through which technology has been able to promote mobility towards global tenure. This indicates that there has been an increase in terms of potential technological advancement that would increase the

process of better management of developing many methods of technological medical care and tools that have provided an increase towards the elderly to have a better process of managing the process of increasing the potential understanding of the increasing indulgence towards helping the paper as per the process. This means that there has been an increase in terms of potential technological advancement that would increase the process of better management of developing many methods of technological medical care and tools that have provided an increase towards the development of many methods of technological medical The author presents an essential component of assisting the elderly by adapting technology to meet their needs, which has the added benefit of having a large influence on an essential component of the lives of other people. This indicates that the primary goals of the process have been established for the technology to build upon, namely communication and mobility.

Much of the issue that has been concentrated in terms of the literature review provides an overview and critical understanding of the past work in research that helps us in understanding the importance of the technological and mobility requirement in terms of elder people that are ill in terms of mentally or physically not capable of being able to sustain themselves and create better management of theirs needs and wants. Thus, in the above statements and papers, we have provided information that technology has played a vital role in changing the course of history in terms of helping people that would help in better management of the elder people that are in need. The aging and the process of rapid dissemination of technological needs have provided an important need to convey the process of working towards a similar fashion of work. Overall the elders have been resisting the use of technology and making it their habit while, if we understand correctly they are the people that need the most support the advanced information and technology to have a better time and comfort in their living standards while also increasing their support.

2.2 Technological Aids and Elderly Response

Technological aids are understood to be the machinery and aspects of technology that provide support and a positive position of the person that would help the elderly people to have a better understanding of the nature of their health while providing support for the response towards their lives with the help of creating an improvement towards certain position such as technological aids towards elder people with the help of technology. People who are unable to live on their own, such as the elderly or those who are unable, are among the many individuals who have a greater need for specialized care than the average population has for

assistive services. These individuals include the elderly and those who are disabled. While in the work of Holthe et al., (2022), the author presents a comprehensive investigation of imperial assistive support and technical assistance in terms of improved lifestyles for the elderly. The study reports and suggests that technology has provided them with assertive support that has enabled them to have multiple purposes of support and better management of the people in need. For example, people with disabilities and older people can receive the necessary care better with the monitoring process, impactful communication devices that regulate and provide better management of the services, and other methods of support such as remaining fit while providing an implementation. The study also suggests that technology has provided them with assertive support that has enabled them to have multiple purposes of support and better management the seniors have benefited from the introduction of technology in the form of supporting and assistive technology, which has allowed them to get greater assistance in terms of maintaining their livelihood and staying healthy. This has established an important aspect that technology has provided a major boost towards the elders that have been reluctant towards change and want to establish an important possession of not changing, but with the work of Todd et al., (2022), there have been many instances and through which we can understand the importance of technology in terms of helping elderly people such as during the global pandemic, isolation has been much impactful on elderly people that require assistance, such as when there was a lack of transportation to get to medical appointments or when there was even though they have been given such assistance, there is still a process underway to increase the efforts of people to provide the technical understanding and supportive methods to eliminate the barriers of issues such as reduced communication and mobility that have been caused by the global pandemic. This introduces the idea that communication has been an important aspect, such as learning and trying to improve the technological utilization of virtual platforms, and the communication application and devices that would be volunteered towards their positive has been positive all over.

2.3 Challenges faced by Elders in using Technology Efficiently

According to the study conducted by Yusif, Soar, and Hafeez (2016), which was conducted by Baig, older individuals are just as diverse as younger people are, and they have a broader array of talents that continue to deteriorate as time goes on. Age is often associated with a decline in both physical and mental health, as well as a reduction in the ability to experience new things. This may be the outcome of older people's subconscious fears that they are going to be left behind by quickly advancing technology because their abilities are unable to keep

up with the pace of its development. It should go without saying that older people utilize the internet and health information technology in different ways than younger people do; yet, the percentage of older people who are adopting these technologies is increasing. People who are elderly often struggle with functional impairments that tend to worsen with age, which leaves them with fewer alternatives for leading an active lifestyle. Forty percent of those aged 65 and older suffer from insufficient amounts of physical activity. If you limit your physical activity, you run the risk of engaging in additional opportunities for harmful behavior. A condition "physical or health-related that makes reading difficult or problematic" or a "disability, handicap, or chronic illness that prevents them from fully engaging in many normal daily activities" is cited by approximately two out of every five senior citizens as a factor in their inability to fully participate in many normal daily activities. The phrase "technologies" refers to a cutting-edge method that makes use of technology in houses to maintain and even enhance the residents' functional health, security, and quality of life. This approach is known as "smart homes." The term "technology" is used to refer to a broad range of different instruments, services, strategies, and approaches that have been created and are being utilized to make life easier for persons who have impairments. A few examples of assistive technology are mobility aids, vision and hearing aids, furniture or assistance for day-to-day living, tools or other modest aids, and adaptations to accommodate.

Fischer, David, Crotty, and Dierks, along with Safran (2014), shed light on how information visually presented influences older people's ability to take in and process information to make choices. Elders have fewer cognitive impairments, including a stronger vocabulary, as compared to younger adults; yet, they score worse on tests of spatial orientation and memory than younger ones do. It is possible to decrease the performance gap in technology by using strategies based on keywords rather than data that is organized hierarchically on websites that provide health information. The same kinds of visual impairments that come with being older make it harder for older people to differentiate between colors in the font and colors in the background while they are looking for information online. Easily circumventing this problem requires just a change in approach to the layout of websites. Due to executive impairments, many seniors have difficulty planning, staying organized, and juggling multiple responsibilities. This is especially true for seniors who have cardiovascular risk factors such as diabetes and hypertension. Therefore, it's possible that using a Windows-based system may be difficult. The concern about one's privacy is the primary barrier preventing older people from adopting HIT. When given the choice, elderly people who are more concerned about

their privacy would choose human aid over technological solutions. Despite this barrier, utility or a perceived advantage is a crucial factor in determining whether or not older people use HIT. For many individuals, the benefits of expanded liberty improved health, and an overall improvement in quality of life outweigh the risks associated with an invasion of privacy. During a focus group study investigation on the motives of elderly technology users, Mele Horst and her colleagues revealed that perceptions of benefits had a greater influence on determining whether or not to employ new technologies. According to the findings of a study conducted by Wild et al., elderly individuals living at home would give their permission to be monitored and to have their health information shared if doing so would assist their physicians in maintaining their independence and maintaining their wellness. In a study that looked at the perspectives of people who used in-home sensor monitoring equipment over a year, researchers found that older people tended to be more open to technology in general, even though they did express certain concerns that increased over the observational year.

According to the study conducted by Yusif, Soar, and Hafeez (2016), older individuals are just as diverse as younger people are, and they have a broader array of talents that continue to deteriorate as time goes on. Age is often associated with a decline in both physical and mental health, as well as a reduction in the ability to experience new things. This may be the outcome of older people's subconscious fears that they are going to be left behind by quickly advancing technology because their abilities are unable to keep up with the pace of its development. It should go without saying that older people utilize the internet and health information technology in different ways than younger people do; yet, the percentage of older people who are adopting these technologies is increasing. People who are elderly often struggle with functional impairments that tend to worsen with age, which leaves them with fewer alternatives for leading an active lifestyle. Forty percent of those aged 65 and older suffer from insufficient amounts of physical activity. If you limit your physical activity, you run the risk of engaging in additional opportunities for harmful behavior. A condition "physical or health-related that makes reading difficult or problematic" or a "disability, handicap, or chronic illness that prevents them from fully engaging in many normal daily activities" is cited by approximately two out of every five senior citizens as a factor in their inability to fully participate in many normal daily activities. The phrase "technologies" refers to a cutting-edge method that makes use of technology in houses to maintain and even enhance the residents' functional health, security, and quality of life. This approach is known as "smart homes." The term "technology" is used to refer to a broad range of different

instruments, services, strategies, and approaches that have been created and are being utilized to make life easier for persons who have impairments. A few examples of assistive technology are mobility aids, vision and hearing aids, furniture or assistance for day-to-day living, tools or other modest aids, and adaptations to accommodate.

According to the findings of the research that was carried out by Peek et al., (2016), the authors of the study found that (2016), Several different forms of technology, such as emergency assistance systems, vital signs monitoring, and fall detection systems, have been developed particularly to assist seniors in their homes while they age in place. The term "Smart Home technology" is used to describe these advancements in technology sometimes. In addition, there is e-Health, which is an umbrella term for a wide variety of technologies, such as internet-based applications that assist seniors in the self-management of chronic diseases. However, despite their potential benefits, these technologies have not been widely adopted for a variety of reasons. One of the reasons for this is because many older people have a conflicted relationship with the following forms of technology: On the one hand, they acknowledge that such technology might facilitate the older population's continued independent life, but on the other hand, they do not consider themselves to need such technologies. In addition, there are information and communication technologies (ICTs) that are readily accessible to the public and are also anticipated to be beneficial to elderly people who want to maintain their level of independence. Examples of this include the use of social networking sites to facilitate social interaction and the utilization of the internet to locate information pertinent to one's health. However, the findings on whether Elders are ready to accept ICTs are inconsistent. Seventy percent of people aged 65 to 74 in the Netherlands use the internet, and of those people, thirty-three percent use social networking websites. However, just thirty percent of people who are seventy-five or older use the internet, and only eighteen percent of those who do use the internet are active on social networking sites. The term "digital divide" is used to describe this problem very often these days.

According to Wilson, Hargreaves, and Hauxwell-Baldwin (2015), the study has not uncovered a significant number of distinguishable characteristics that prospective users of smart homes have. This is something that has been identified. There is one prominent exception in the form of smart houses for supportive living. These homes emphasize active aging and mobility, individuality, and freedom of choice, as well as the ongoing and interconnected needs of an aging population. Users of older smart homes have specific requirements, such as help with hearing or vision impairments, automatic fall detection, and

prevention systems, and support for users who need aid with hearing or visual impairments. Not just elderly people but even younger people might be vulnerable consumers in assisted living smart homes. In your presentation, you should highlight the possibility of using wearable sensor technologies in conjunction with smart homes to monitor a variety of patients' physiological features. Focus your attention on people who are suffering from serious mental illness. Call attention to the specific requirements that dementia sufferers have for the user interface. It is required to infer the identities of prospective users of smart homes in addition to these special characteristics of health-related users of the technology. When it comes to trying to control their household energy consumption, consumers are often reasonable and open to information and costs, at least according to the instrumental approach.

According to the functional perspective, customers who are interested in technology are lured to a lifestyle that revolves around the Internet and the chance for industrial automation that is provided by the smart home. A select number of articles propose the existence of a new user type called the progressive home improver. The development of modular, low-cost, and user-friendly models has made it possible to install smart home technology in homes that are either in the process of being built from scratch or that already exist. As a result, customers may come from households with low or moderate earnings, as well as those with high incomes who have a passion for technology. The last type of prospective customers, which is more prevalent in the socio-technical research that we've analyzed, concentrates on women, children, and couples rather than households with a single tenant or single users. This category of potential customers is also more likely to make purchases. For instance, Richardson and Berg point out that diverse gender roles and personalities should be taken into account throughout the process of designing and developing new technologies. This is because women and children will use smart homes in the same amounts as men will.

According to Moore and Hancock's research, one of the challenges that older people have when attempting to utilize digital media for socializing is the fact that they are less likely to have access to digital media than younger people (2020). For example, the percentage of younger people who own mobile phones is much greater than the percentage of older people who own cell phones in wealthy countries all over the world. The ownership gap between younger people and older people tends to be even wider in developing countries. In addition to this separation between the affluent and the poor, scholars have also observed a considerable disparity between the young and the elderly when it comes to digital media. New people tend to be more knowledgeable and experienced on digital platforms than older

users. Numerous studies have revealed that the differential in digital skills that is caused by the digital divide extends beyond the one that is caused by differences in physical access. The lack of digital knowledge and expertise might be the consequence of several different factors. Some of the reasons have to do with people's mentalities, such as the fact that older people sometimes regard new technology with suspicion or assume that using it would be difficult. Some of these are linked to the fact that the majority of older people's career histories did not primarily rely on the use of contemporary digital technologies.

The comparatively small screens and touch-based interfaces of current communication tools like smartphones provide a physical barrier. To utilize these interfaces effectively, one has to have great eye-hand coordination and a higher tendency to use them. Disinformation and fraud are also committed against senior citizens once they are online. During the presidential election in the United States in 2016, those aged 65 and older were more than twice as likely to have access to fake news items on Twitter and seven times more likely to share false news on Facebook. This was in compared to those aged 18 to 29 years old. Additionally, several scams, including love scams, phishing emails, and even COVID-19 schemes, specifically target senior citizens and are carried out via social media platforms.

According to the study conducted by Yusif, Soar, and Hafeez (2016), which was conducted by Baig, older individuals are just as diverse as younger people are, and they have a broader array of talents that only continue to deteriorate as time goes on. Age is often associated with a decline in both physical and mental health, as well as a reduction in one's ability to experience new things. This may be the outcome of older people having a more covert fear that they are going to be left behind by quickly advancing technology because their abilities are unable to keep up with the pace of its development. It should go without saying that older folks use the Internet and health information technology in different ways than younger ones do; yet, their adoption rates are growing. Elderly persons sometimes struggle with functional impairments that tend to worsen with age, which reduces the number of opportunities available to them for leading an active lifestyle.

Forty percent of those aged 65 and older are affected by insufficient amounts of physical activity. If you limit your physical activity, you run the risk of engaging in other potentially hazardous activities when you don't have the opportunity. A condition "physical or health-related that makes reading difficult or problematic" or a "disability, handicap, or chronic illness that prevents them from fully engaging in many normal day-to-day activities"

is cited by approximately two out of every five senior citizens as a factor in their inability to read. The phrase "technologies" refers to a cutting-edge method that employs technology in houses to protect and even enhance the residents' functional health, security, safety, and quality of life. This technique is known as "home automation." The term "technology" is used to refer to a broad range of different instruments, services, strategies, and procedures that have been produced and are being used to make life easier for persons who have impairments. A few examples of assistive technology are mobility aids, vision and hearing aids, furniture or assistance for day-to-day living, tools or other small aids, and adaptations to fit the individual.

According to the findings of the research that was carried out by Peek, Luijkx, Rijnaard, Nieboer, Van Der Voort, Aarts, Van Hoof, Vrijhoef, H.J., and Wouters, E.J., the authors of the study (2016), Several different kinds of technology, such as emergency aid systems, vital signs monitoring, and fall detection systems, have been developed with the express purpose of easing the transition from one stage of life to the next for elderly people living in their homes. The term "Smart Home technology" has been used to refer to these innovations on occasion. In addition, there is e-Health, which is an umbrella term for a wide variety of technologies, such as internet-based applications that assist elderly people in the self-management of chronic illnesses. These technologies, on the other hand, have not been adopted on a significant scale for a variety of reasons. One of the reasons for this is that older generations often have a conflicted relationship with many forms of technology, including the following: On the one hand, they acknowledge that such technology might facilitate the older population's continued independence in living, but on the other hand, they do not believe that they need such technologies. In addition, there are information and communication technologies (ICTs) that are readily accessible to the general public and are anticipated to be of use to seniors who value their independence. The usage of social networking websites to maintain social contact is one example. Another is searching the internet for health-related information. However, the conclusions on whether or not Elders are ready to use ICTs are inconclusive. Seventy percent of people in that age range in the Netherlands use the internet, and of those people, thirty-three percent utilize social network sites. On the other hand, just thirty percent of people aged seventy-five or older make use of the internet, and of those persons, only eighteen percent use social networking websites. The term "the digital divide" is used to describe this problem rather often.

According to Wilson, Hargreaves, and Hauxwell-Baldwin (2015), the study has not uncovered a significant number of distinguishable characteristics that prospective users of smart homes have. This is something that is the case. A major exception is the usage of smart houses for supportive living. These homes emphasize active aging and mobility, individuality, and freedom of choice, as well as the ongoing and interconnected needs of an aging population. Users of older smart homes have specific requirements, such as aid with hearing or vision impairments, automatic fall warning and prevention systems, and support with hearing or vision problems. Not just elderly people but even younger people with disabilities might be vulnerable users in assisted living smart homes. In your presentation, you should highlight the possibility of using wearable sensor technologies to monitor a variety of patients' physiological features via the usage of smart homes. Focus your attention on those individuals who are suffering from serious mental illnesses. Bring to people's notice the specific user interface requirements that dementia sufferers have. It is required to infer the identities of possible users of smart homes in addition to these specific characteristics of health-related consumers who may employ the technology. When striving to control their household energy consumption, consumers are often rational and sensitive to information and pricing, as postulated by the instrumental approach.

According to the functional perspective, customers who are interested in technology are lured to a lifestyle that revolves around the Internet as well as the chance for industrial automation that is provided by smart homes. There is yet another user type that has been suggested in a few publications, and that is the progressive home improver. The development of modular, low-cost, and user-friendly models has made it possible to install intelligent home technology in homes that are either in the process of being built from the ground up or that already exist. Consequently, prospective customers might come from households with low or moderate incomes, as well as those with high incomes who have an interest in technology. The last type of prospective customers, which is more prevalent in the socio-technical research that we've analyzed, concentrates on women, children, and couples rather than households with a single tenant or single users. This segment of customers is more likely to buy the product. For instance, Richardson and Berg emphasize that varied gender roles and personalities should be taken into consideration during the design and development of technology since women and children will use smart homes just as much as men will.

According to Moore and Hancock's research, one of the challenges that older people have when attempting to utilize digital media for socializing is the fact that they are less likely to

have access to it than younger people (2020). For example, the percentage of younger people who own mobile phones is much greater than the percentage of older people who own cell phones in prosperous countries all over the world. In developing countries, the ownership gap between the two generations tends to be even wider. In addition to this separation between the affluent and the poor, scholars have also observed a considerable difference between the young and the elderly when it comes to digital media: younger people tend to be more knowledgeable and experienced than older users. Numerous studies have shown that the differential in digital skills that is caused by the digital divide extends beyond the one that is caused by differences in physical access. The lack of knowledge and expertise in digital technology might be the consequence of several different factors. Some of the reasons have to do with people's mentalities, such as the fact that older people often have a negative attitude about new technology and assume that it would be difficult to work with. Some of these are tied to the fact that the majority of older people's job lives did not primarily rely on current digital technologies when they were younger.

The comparatively small screens and touch-based interfaces of contemporary communication tools like smartphones, which need great eye-hand coordination and a higher tendency to use, are examples of some of the physical impediments that exist. Once people of a certain age start online, they are more susceptible to being scammed and misinformed. During the presidential campaign in the United States in 2016, persons aged 65 and older were twice as likely to have access to fake news items on Twitter and seven times more likely to share false news on Facebook. This was in compared to those aged 18 to 29 years old. Additionally, several scams, such as love scams, phishing emails, and even COVID-19 schemes, specifically target senior citizens and are carried out via social media.

However, there is a maturity level digital gap, as stated by Ahmad, Razak, Zainal, and Kahar (2013). This is even though older people are increasingly adopting technology, notably computers and the internet. The significance of using the internet as a conduit for communication and the dissemination of information about societal issues, political activities, personal health, and spirituality has expanded significantly over the last decade. In point of fact, by boosting older people's ability to participate in a wider variety of activities and get access to a wider range of services, technology may also help elderly people to maintain their independence and improve their quality of life. People of a certain age who do not have access to the internet will fall farther behind and be unable to enhance their quality of life. As a result, the purpose of this article is to investigate how senior citizens employ internet

technology by teaching them how to use a social networking application as well as one of the essential government webs.

As people become older, they are more likely to suffer from certain degenerative consequences, such as the gradual deterioration of their eyesight and hearing, as well as losses in their psychomotor, memory, and learning abilities. It is possible that as a result of this, older people may have a more difficult time using the Internet, which is a vital resource for providing them with access to information and services that can improve the quality of their lives. Alterations in one's physical state, one's cognitive abilities, and one's conduct may be regarded as the key obstacles that older people confront while attempting to use technology. As people become older, they experience a reduction in their levels of vision, hearing, psychomotor skills, and perceptual acuity; this is the most common problem among elderly people. Nielsen highlights the fact that as individuals become older, their vision deteriorates, which leads to visual issues, especially for older people who use the internet, as the majority of websites are extremely visually oriented. Because of problems with their eyes, some elderly users are legally blind; as a consequence, they were unable to differentiate between colors on the website they visited. Hearing loss is a common condition that affects people of senior age. According to the findings of recent studies, hearing loss and cognitive issues are highly linked in the population of senior people. The response time of older people will prolong when they are required to do a more demanding motor task or when there are more alternatives available. They have difficulties using a mouse to track a target, have problems with the placement of the cursor, are unable to keep the mouse immobile, and they move the mouse extremely carefully with each movement so that they don't make any errors.

According to Morrow-Howell, Galucia, and Swinford's assertions (2020). Due to the shelter-in-place orders and the closing of organizations, a great number of people have been unable to use the aging network infrastructure and the medical system to meet the preexisting needs they have in terms of their physical health, their finances, and their social lives during this crisis. A large number of groups that "help vulnerable elderly" are now working to respond to the situation and mitigate any potential damage. Area Agencies on Aging and comfort food programs, for example, are attempting to fill the holes left by the closing of senior centers and congregated meal programs. These voids were caused by the closure of senior centers and congregated meal programs. At the same time, volunteer drivers, the majority of whom are older folks, are unable to carry out their duties due to the isolation they experience. Because of these changes to lifestyle interventions, which may cause older people

with fewer resources to become dependent on processed foods, achieving optimal nutrition may become more difficult for those individuals who are older and who have fewer resources.

Altering one's diet might make current health problems worse, depending on the person. As yet another example, home care companies are having trouble retaining both clients and personnel as a result of the choice made by both groups to skip typical care arrangements due to fears of contracting the virus. This is causing the companies to struggle. This disregard for personal cleanliness, the proper administration of medication, and proper nutrition will, in due time, result in a deterioration of health and an increase in the need for supportive services. The provision of support services is in jeopardy, and other medical appointments and treatments are being delayed since the healthcare system is concentrating only on COVID-19 patients at this time. It is becoming less common for senior patients to get preventative care such as routine exams, non-emergency medical visits, and elective surgeries, which raises the likelihood that their health may deteriorate. Compounding this issue is the worry that there would be a backlog of required procedures, tests, and appointments when easier access to medical care is available. This would put further strain on the system and cause further delays in the provision of fundamental therapy.

2.4 Factors that Influence the life of Elders with the use of Technology

The quality of life of older people is determined by a variety of characteristics, including their functional abilities as well as their level of independence in terms of making decisions and carrying out day-to-day tasks. Although factors related to aging can affect aspects such as speed, memory, and basic bodily functioning, an increasing population and shifting patterns of social interactions have led to a defined path of cognitive decline in older individuals in a society due to isolation brought on by a lower level of acceptance of new technology. This decline is large because older people are less likely to embrace new technological advancements.

According to the research that was carried out by Kelly et al. (2017), maintaining social interactions actively, with familiarity and promoting the use of widely accepted social networks helps in the aspect of eradicating isolation from the lives of elderly individuals to some degree. The authors point out that obtaining social support and maintaining frequent connections can be beneficial to the group that is the subject of the study by improving cognitive functioning and eliminating discrepancies that may exist as a result of aging and the

conditioned isolation that comes with living in today's modern environment. The authors of this study have defined, with adequate support, the connection between a lower utilization of modern techniques of communication through the use of technology, with its direct correlation to mortality rates, leisure, declining quality of lifestyle, as well as lower functional and cognitive levels among elderly people. This connection has been established between the lower utilization of modern techniques of communication through the use of technology. The findings of this study, which was carried out by Kelly et al. (2017), highlight the importance of developing social networks through the use of technology in later years of life, while also defining the impact these networks have on individual capabilities such as attention span, memory, speed, and cognitive behaviours. These findings were emphasized by the fact that they enhance the importance of developing social networks using technology in later years of life. As the contemporary world adjusts to newer forms of communication, all of which are inclusive of rising technological advancements, a barrier in front of elderly individuals who shy away from its utilization has proven to be harmful not only for themselves but also for those around them in terms that have been mentioned within this study. As the modern world adapts to newer forms of communication, all of which are inclusive of rising technological advancements.

According to the findings of research that was conducted by Khosravi, Rezvani, and Wiewiora, being socially isolated and experiencing feelings of loneliness may have a significant impact on the health and overall wellness of older people (2016). Numerous technology-based therapies have been proposed as potential solutions to the problem of social isolation; however, there is a paucity of research demonstrating the roles that various types of technology play and the efficacy of these solutions in resolving the problem of social isolation among seniors. As technology has evolved in many other aspects of life, including healthcare, its significance has grown, particularly as people have lived longer. The introduction of more cutting-edge technologies, such as information and communications technology (ICT), artificial intelligence, and machine learning, has resulted in significant advancements in both the field of medical research and the delivery of high-quality medical assistance to elderly people all over the world. According to the findings of this study, however, people of this age group have accepted contemporary methods at a slower rate than people of other age groups owing to knowledge and intervention gaps that are both technical and practical. The lack of technologically sophisticated treatments has been related to the

concept of loneliness and isolation among seniors, which was discussed before since these therapies are less effective and have less of an effect on the overall welfare of seniors.

Complementing the coverage of the topic of ICT, authors Yuan et al. (2016) stress that older individuals grew up in a period when communication opportunities were more constrained than they are now. Before the invention of the Internet and mobile phones, the most common forms of communication were face-to-face interaction, written documents (usually letters), and conversing on landline telephones. There are now many more ways to communicate with social connections because of the advancement of mobile and digital technology. However, older persons confront unique difficulties that may influence their preferences and patterns of communication. Many age-related challenges, including problems with movement, vision, and hearing, influence how older persons communicate. For instance, elderly persons who are physically less mobile find it especially challenging to maintain an active social life and keep in touch with friends and family. Physical limitations and a lack of social support have been related to higher feelings of loneliness and discontentment with life. Aged persons with restricted mobility have been proven to benefit from ICTs. The social interactions and time spent socializing with older persons are impacted by these health impairments. ICT advancements, however, may somewhat offset the negative effects. ICT development is very helpful for older persons to keep in contact with friends and family. For elderly folks, long-distance phone or email contact has been proven to be very beneficial in maintaining closeness in relationships. As an example, compared to those who solely communicated in person, many older persons who lived a long way from their grandkids reported having more phone and email contact, which was also very satisfying. Elderly people, however, also believe that e-mail contact lacks the human touch they like.

Adding to this highlighted topic of healthcare and treatments for the elderly in the modern age, Peetoom et al. (2015) deduce how there is a need for answers to the complex care needs of the elderly, and older people desire to continue independently at home for as long as is physically possible. Due to the growing number of elderly people in the community, there is a considerable need for medical care services, thus this is a necessary step. For example, one of the major risk factors for the development of chronic diseases, comorbidities, and disorders like Alzheimer's is advancing age. In addition, the risk of falling and breaking a hip increase with age in persons who are over 60. However, there are not sufficient resources to satisfy the demand for complex medical treatment at this time. As a consequence of improvements in sensory and communications technology, surveillance technology may become an essential

component in the process of bettering the medical system and making it possible for seniors to continue living independently for a longer period. The authors of this study decided to concentrate their attention on the day-to-day activities that older people engage in while they are at home since immobilization or a general decrease in their functional health can cause or be the cause of illness, and may put their autonomy and welfare in jeopardy.

Further, in the work compiled by Meristö and Laitinen (2018), it has been stated that in industrialized nations, both a longer life expectancy and a lower birth rate are factors that lead to a rising population of elderly people. These repercussions have an immediate effect on the economy, society, and—most importantly—the old people themselves. These effects include—but are not limited to—a rise in the demand for social welfare and healthcare services, necessitating the development of whole new techniques based on cutting-edge technology, including the application of artificial intelligence and digitalization in senior home care. The findings of qualitative semi-structured interviews with senior citizens who were performed in certain locations are discussed in this article. The demands and difficulties that elderly people deal with daily were revealed via these conversations. These findings helped in getting a better knowledge of what older people, whether they reside in urban or rural areas, require to go about their daily lives.

The authors emphasize that these effects include a rise in the demand for social welfare and healthcare services, necessitating completely fresh approaches based on cutting-edge technology, such as artificial intelligence and digitalization. This will be required due to population growth. The interviews primarily concentrate on the participants' usage of digital tools and technology as well as their interactions with any kind of digital service. The ideal future scenario seems to be one in which older applicants are capable of using a wide range of apps and devices and are aware of the availability of a variety of options. One obstacle preventing individuals from fully accepting the most recent technology is the worry that one won't be able to handle new technology or the danger to the safety and security of digital connections.

Meristö and Laitinen (2018) first and foremost highlight that despite the seeming trend toward using digital devices for banking, there are still times when going to the bank in person is necessary. The usage of digital medical advice services as an alternative to conventional in-person or phone consultations would be helpful to their welfare and provide a one-of-a-kind incentive to utilize digital gadgets. The health of senior people will play a

significant part in their lives. One of the older persons who took part in this survey thinks that in the future, digital products and services would enable elderly people to stay in their homes for as long as it is physically viable. Not only were daily news and entertainment services given priority, but also important services like banking and medical care were at the top of the list. The internet and sites like Facebook may help individuals of a particular age who reside in remote regions discover others who have similar interests. Nordic walking alone is not nearly as inspirational as doing it with a group, even when engaging in a virtual group that allows for interaction. The results of the interviews on security and safety issues imply that, in addition to home warning systems, which many of them were acquainted with, knowing intelligent security, for instance, may empower older people to utilize digital gadgets and increase their feeling of safety and security. Based on the fact that intelligent security was one of the subjects addressed, it was discovered that this was the case.

2.5 Strategies to Overcome Technological Challenges for Elders

While barriers relating to utilization and adaptation of technology for older individuals in society have been plenty, thorough research over the years has defined the formulation of certain aspects that contribute to the welfare of this component in terms of enhancement of facilities for overcoming technical challenges amongst elders.

Gardiner, Geldenhuys, and Gott (2018) conducted a research study implicating the understanding of this perspective in various sections. It was often difficult to determine which particular aspects of a given intervention were most crucial to its efficacy because of the complexity of most therapies and the fact that many of them used several strategies to combat social isolation and loneliness. This was especially the case because many of these therapies used multiple strategies. The concepts of social isolation and loneliness are always undergoing conceptual development at a theoretical level. It is essential to have a solid theoretical understanding of how interventions reduce feelings of social isolation and loneliness to know the steps that must be taken to carry out an effective intervention. There are a variety of treatments available to alleviate the social isolation and loneliness experienced by older individuals. Although there was a great deal of difference amongst treatments, the vast majority of them indicated that they were effective in reducing feelings of social isolation and loneliness. Effective programs have several similar traits, including adaptability, engagement with the community, and interesting activities. Even though our findings were not derived through a meta-analysis, it is important to highlight the fact that

they were supported by a mix of data from studies that used a wide range of research approaches. As a direct consequence of this, it is impossible to provide statistical evidence for claims on effectiveness.

Complementing the above discussion, Khosravi, Rezvani, and Wiewiora (2016) highlight that the study developed by them conducts a comprehensive literature analysis of previous empirical research on several kinds of technologies and the usefulness of such technologies in reducing the risk of social isolation among older adults. The pertinent electronic databases were searched, and through ample early sets of studies, the authors found eight different technologies that have been applied to alleviate social isolation. These technologies are as follows: general information and communication technology; video games; robotics; personal reminder information and social management system; asynchronous peer support chat room; social network sites; Telecare; and 3D virtual environment. We conducted further research to see how successful the devices are in reducing social isolation among older citizens. The findings suggest that seniors might benefit from using technology to lessen their feelings of social isolation. However, to properly assess the usefulness of emerging technologies, further research is required.

It has been understood that the frontal process of the main objective of the study has been set to determine the aspect of being able to understand the needs and requirements of the technology and the needs for communication and mobility for elderly people. It has been submitted towards increasing the informal process of understanding the facts and important points that have been covered in this need and requirements. The objectives in the literature have been understood as elderly accessible and increasing the process of communication in terms of utilizing the response towards creating a better impact of the aim of the research. The above work of literature review has identified the relationship between the technological usage of mobility and communication this also means that there have been mentions of strategic affiliation towards communication. The literature review has also proposed the importance of the past work that has been done on influential aspects of the elder people's lives with the usage of technology. In terms of research and approach, there has also been importance given to challenges and major issues that elders face when in terms that would help in creating the terms of efficiency of the purpose towards the creation of the terminology to understand the importance of technology to support the elderly. The literature review has also provided an important analysis of understanding the importance of creating a strategic

analysis towards finding the solutions and effective initiatives towards strategies that would be helping in the elderly to utilize the technology.

Chapter 3: Research Methodology

3.1 Introduction

Research may be defined as an in-depth investigation of a particular topic or problem, and it typically makes use of scientific procedures. In order to provide a response to the research question or investigate the research hypothesis, the researcher must first identify the research strategy and then choose the precise techniques that will be used to carry out the study. The strategy that was used is an example of the study project's technique. This might be different depending on the organisation or project, but a professional researcher will make sure they understand the aspects of the method that will impact the results in the end, such as minimising bias and ensuring a suitable sample size. This research would have a concentrated approach of working in the process of critical path of Saunders onion methodology which would help in defining the process in the best possible aspect of the work. The process of research methodology in the elders have been defined in the process below:

3.2 Research Philosophy

The process of investigation and the critical pathway defining the approach through which the most important aspect of a research is defined through the belief and foundation of the research. In understanding and helping the void of technological gap between the elders and the technology usage there is a need to understand the importance of process and derivation through which the main motive of the business is seen. While in the understanding of the research, this research would derive the outcome and potential pathway through ***Epistemology*** as the main derivation of the research would be to determine the finding of knowledge and result which would be helpful in the construction of the process and defining result of the research. Through the philosophy there is also a concentration on the ***interpretivism*** as the main process of working through which reaching out to the reality and the real knowledge of set derivation could be reached. There are factors that play important role in interpretation of the result that might alter the result thus, creating an sustaining aspect of conclusion which would help in creating a critical path of better knowledge related to the research is important thus, factors such as social and thinking patterns of the target audience are to be well involved in the process.

3.3 Research Approach

As a result, the approach is the possible critical position in which the research would define the decision making and clear motive of the approach that would help in the clear

identification of the data analysis and the identification of the process through which the main work of the approach is to construct the clear picture and motive of the research. Because the main aspect of the research has been defined in the environment and limitations through which it has been constructed, the approach is the possible critical position in which the research would define the decision making and clear motive of the approach. The process of researching the approach and primary motivation for the audience that the target research is aimed at is included in the deductive method through which the key attributes of the classes are determined. The methodology of the study would be based on a qualitative process, and its primary goal would be to thoroughly produce an effect by better comprehending the data obtained from the process of social and cultural influence. This deductive and qualitative approach would be fruitful as the main target audience has been well established and constructed in forms of management motives.

3.4 Research Strategy

When it comes to having a knowledge of the goal, establishing overall viewpoint and comprehending the way in which the study may be helpful are both necessary steps. While the primary goal of the study was to gain an understanding of the process through which elderly people, who typically have lower levels of technological expertise, could be integrated into the system for their benefits in the longer run, the research also sought to determine the various approaches that could be taken in order to carry out this process. Having a survey plan in place would be the primary focused method that the research strategy would take. This becomes important as the main motive of the process through which the research methodology has been selective in the process, which would help in the process of understanding and creating an effective use of survey. This would help in the process of understanding and creating an effective use of survey. The methodology would be helpful in the focus attribution constraint in such a way that the individualised data that would be obtained via the technique that was chosen and picked must be effectively used in order to develop a strategy. The following technique of data collection and analysis, which has been handled in the following work, will be the most significant part of this procedure.

3.5 Data collection

Primary method of data collection is a positive in any constraint, understanding the issues and challenges of the elderly through a critical use of tableau that would be open ended towards the process of observing the data and being able to ethically process on the process. Primary

method of data collection is a positive in any constraint. The method that is chosen for this would improve the motivation of older people and other target populations, which would include the process of a restricted population of individuals who need support and medical aid but are technologically illiterate. This would provide an effect of comprehension, the processing of which would constitute the technique of comprehension for the data that was acquired.

Chapter 4. Data Analysis

When examining both the arguments for and against a certain issue, the scope of the research inevitably expands. In this literature study, we examined the impact of recent technology developments in the field of healthcare for the elderly. Our literature research revealed that advances in technology have been used for decades to help improve the health care systems, leading to better services and methods for caring for the elderly. There are benefits and drawbacks for both the recipient and the giver, as with every new invention. We may think of doctors and retirees as winners in this scenario.

Overall, research suggests that technological progress has a major effect on every facet of human existence, including the physical, psychological, and emotional dimensions. Some technological aids make it easier for seniors to go about their everyday lives by facilitating their movement. By taking an active role in their own health care, seniors are able to feel more in control of their lives and to have a greater sense of safety and security as a result of this advantage (Ahmad, et. al., 2013). Therefore, technology aids in the elderly's self-assessment of their health state, revealing their abilities and constraints in this regard. Moreover, these developments also contribute to the confidence of seniors, because they are the ones who ultimately decide their level of performance and the amount to which they will be able to progress. In this way, technology advancements encourage the elderly to carry out their daily tasks independently, which slows the onset of aging-related changes and increases the longevity of the population's senior individuals.

There is a wealth of research on the value of social connections and the responsibilities that older people perform, especially in a volunteer capacity, that may be used in studies that try to quantify the effect of assisting others on ameliorating the detrimental effects of loneliness on health. According to the research, volunteering has monetary worth but, more significantly, is socially helpful.

The communities in which people volunteer are often more prosperous, secure, and cohesive places to live. Volunteering is a crucial element of any community, but it also has personal benefits, especially for the elderly. Volunteering has been shown to improve the lives of both the elderly people helped and the volunteers themselves by reducing feelings of isolation. Understanding what it entails to be human and developing strong discussions about death and dying was found to be difficult but rewarding for the volunteers involved.

A person's cognitive abilities, senses, and motor skills all decline as they become older. Because of this, it is challenging for the elderly to carry out ADLs that they formerly did with ease. In addition, the risk of falling increases with these diminished capabilities; this, too, may have disastrous results. Consequently, it is desirable to create methods for detecting analysis of the technology impact on the elder's people. Preventing falls in order to lessen their effects. This report provides a TABLEAU-based ana. It evaluates the systems based on criteria such participant age, information, TABLEAU algorithms, detectors, and the ideally placed sensors for a certain activity. According to the data, it is common practice to examine the effects of technology on the elderly by focusing on mobility and communication tools (Chen, et. al., 2021). However, the generalizability of these research is limited since they are often conducted in a laboratory setting with adult participants. This research also provides a visual representation of TABLEAU algorithm learning results, application, and performing matrix with various wearables. Energy efficiency, sensor technology, sensing capabilities, and wearable design are among the important future directions listed in the report's conclusion.

Chapter 5. Research Findings

This research analysis uncovered the potential for technology to improve the emotional, mental, and cognitive health of the senior population. By engaging in self-care activities and having conversations with the social environment, whether through community activities 38 or simply conversing with other people, older individuals will be to sustain or even establish their brain functioning with the help of this technology, reducing the risk of becoming socially isolated and depression. When one facet (psychological, mental, or cognitive) is improved, it ripples across and impacts the other two. Technology enhances the lives of the elderly in many ways, including the physical, psychological, and emotional. Elderly folks are often seen as a helpless demographic, but these initiatives aim to change that. Emotionally, older people may benefit from having a robot as a buddy. Because of their role as enablers, robots may help seniors in many ways, from a practical one to a more intangible one like

facilitating their independence (Moore, et. al., 2020). With these concerns in mind, doubts persist about the future impact of technology on the elderly.

The study's primary objective was to provide light on the role of movement and communication technologies in people's own conceptions of effective aging. The results of the quantitative research and the qualitative study were linked using a sequential mixed approach (QUAN-qual) to triangulation the findings, providing the depth necessary to investigate the use of mobility and telecommunication technology for aging effectively in place. Because of the rising interest in reducing loneliness using CT, this study also offers a relevant critical appraisal of the possible rise in the use of telecommunications among the elderly.

When the elderly care industry is wrapping up its reaction to the results, this is extremely crucial. The increasing prevalence of social isolation among the elderly as a result of technological advances calls for a reevaluation of our existing understanding of loneliness and isolation (Embarak, et. al., 2021). In addition to identifying people most likely to benefit from an intervention based on an examination of transportation and communication technology, this research also provides valuable insight into the potential of telecommunications to mitigate the harmful effects of such experiences.

Using the theoretical framework of goal attainment through a variety of adaptive processes—including loss-based selection, discretionary selection, optimisation, and compensation—this study looked at how older individuals themselves define successful aging. One of the negative signs of healthy aging is feeling alone and unhappy, thus this study looked at how the use of modern communication methods can help improve these conditions. The results imply that CT may not always be the greatest solution for coping with loneliness and its negative effects. The greatest value, however, lies in its and similar techniques' capacity to foster social support. The quantity and quality of one's social interactions cannot be simply enhanced by CT. What matters more is that technology be put to use to improve how we age and lessen the burden of physical decline.

This study's findings were visualized using the aforementioned approach. It was made in a way that makes the results readable, much like the storyline around the trifecta of advanced age, isolation, and modern means of communication. These results provide fresh light on the topic. An antidote to isolation, for instance, is sedentary physical exercise. Participating in this kind of event might help alleviate feelings of isolation. However, a lonely elderly person

may not have a strong social network. In addition to addressing an older person's support structure, attempting to combat loneliness by sedentary physical exercise is futile. This study highlights the need of recognizing that a solution to loneliness cannot be found in a single endeavor focusing on a single cause. It also shows that communication technology alone won't alleviate an elderly person's feelings of isolation if they don't have a support system in place.

It is obvious from the data analysis that there is a lack of categorization of which older adults would gain the most from mobility and communication aids. Many studies only provide a superficial segmentation analysis, with others maybe just considering age as a single modifiable variable (Fischer, et. al., 2014). Perhaps they see persons of retirement age as a monolithic unit whose reactions can be predicted with certainty. It's possible that this may encourage the use of communication technologies among those who would get the fewest advantages from them. Statistically significant findings among subgroups of individuals, such as those aged 65–66, may be extended to the whole 'older adults' population. A CT program is designed for the elderly once it is concluded that the favorable reaction to CT suggests that all persons of that age will reap the same benefits.

Since of this, it is proposed that research of communication technologies will help people from a wide variety of populations, not only the elderly, because the physical realm is changing for them too. The ability to adjust to new objectives, as well as the distinction between self-efficacy and self-esteem, is proposed as a more relevant subset of analysis. Successful aging and the uptake and value of CT use may be better predicted by mastering the loss itself than than the resources themselves.

Sub-question 3 investigated this idea further to show that the usage of communication technologies was not substantially associated to individuals who were successfully aging. The concept of this work was to explore the extent to which CT is associated with healthy aging. If CT were a key component of successful aging, we would expect to see strong correlations between those who achieved high SOC scores in remuneration, the use of CT, and narrative conceptual frameworks of the utility or effect of CT; this would point to efficient use of resources and, by extension, successful aging based on the SOC structure (Neves, et. al., 2015). Based on what was learned about the connection between modern communication methods and healthy aging, the study's last research sub-question posed the issue of whether or not CT affects the processes used in the SOC model.

This study investigated whether or not communication technology might be a goal-relevant commodity in the process by which an older person achieves successful ageing in place, on the assumption that optimization entails the procurement and investment of means that are relevant to the achievement of the goal. Exemplifying optimization includes showing tenacity in pursuit of a goal and paying close attention to detail. Those who reported a high happiness with life score persisted in their efforts to attain the objective of keeping associated with family and friends via the use of emails and text messages when their mobility was curtailed due to an unexpected or preplanned clinical episode. Those whose loved ones particularly want to maintain contact with them but who had the technical know-how to do so have also benefited from learning new abilities.

Friends and relatives might help by reminding you of the importance of keeping in touch. Some responders said that they have taken lessons to learn CT (Khosravi, et. al., 2016). Although many committed time and money to attending courses, they were unsuccessful in their attempts to learn all that was covered. This is related to the fact that most classes on this topic are taught in traditional lecture halls and focus on theoretical concepts.

As pointed out in the Six Myths discussion on CT and the elderly, this is especially true when training is provided in a manner that creates hurdles to CT that may not have been present before (Section 2.4). Over half of the participants in the Study were aware of the Be Interactive program, an official government initiative that provides free CT training to seniors. Two people responded, but neither of them finished the course; both were harshly critical of the delivery method and the instructor's apparent lack of familiarity with the context in which the students would be using the communication technology. This case exemplifies the pervasive ignorance about the connection between communication technologies and the potential applications they have.

When seen through the perspective of Orem's nursing theory, this research suggests that individuals' capacity to preserve independence and take charge of their own health and wellbeing is crucial to ensuring that they have a high quality of life. Self-care is essential to a speedy and complete recovery for the elderly, and it is essential that they take on as much of the care for themselves as they can (Gardiner, et. al., 2018). Assistance from a healthcare practitioner is necessary when an adult lacks the ability to, or is unable to, provide for his or her own continuous and effective self-care. A increasing elderly population, however, places a burden on healthcare providers and facilities. All of the above factors are significant

arguments in favor of using technology advances in the healthcare system to better meet the needs of the elderly. However, these technologies need to be quickly extended and implemented in homes and neighborhood care settings to maximize their effectiveness in enhancing the effectiveness of healthcare delivery, decreasing health care expense, improving patient outcomes, and optimizing the function and independence of senior adults.

According to the results of this research, many of these technical advances have already been implemented and are still in the process of being refined. If we want the elderly to be more aware of the advantages of technological advancement 43, we need to advertise them more. Greater understanding would spur public and non-profit groups to use tech-based services to meet the challenges of an aging population. In order for the elderly to begin incorporating technology into their daily life, they need instruction and assistance. Caretakers and family members of the elderly frequently need prompting to adopt new technologies to improve their care. They are crucial to helping the elderly learn about and adapt to new technologies. But there haven't been nearly enough studies to fully understand how familiar and comfortable medical professionals and patients are with it. In addition, there is a dearth of literature on the topic of how the elderly interact with new technologies. Therefore, further research into the elderly, their families, and healthcare providers' adaptability to health care settings enhanced by technology is required. Research is also required to determine whether or not these technologies may aid in the resolution of functional issues for the elderly who are experiencing early-onset long-term impairment or who are fragile.

This study provided empirical evidence linking optimization behavior to the lack of physical constraints and quick access to resources, specifically highlighting the use of CT when an older adult has the combination of tools or resources to concentrate on accomplishing their original objectives. In light of this, it is hypothesized it is not the CT in itself that is considered beneficial. In reality, it has no effect on the methods an elderly person employs to age in place. To the extent that it is used, it is often seen as only one of several potential means of accomplishing the intended result.

Chapter 6. Critical Discussion

It's become clearer that the pace of technology progress is not keeping up with societal needs. There are governments that operate their country with the support of their citizens' power, and there are governments that rule their country for their own gain alone, or by capitalism. This has serious repercussions for technical advancements; although some technologies may provide real answers to people's questions and meet their actual demands, there are also tyrants in power who create problems for their subjects and then hold the answers hostage behind a paywall.

Since this important subject has not been fully explored in our work, it provides fertile ground for future investigation and publication. Regardless of a country's political setup, the study's findings apply to the adoption and use of technical innovation (Golant, 2017). Finland takes care of its people constantly. The Finnish government is dedicated to maintaining Finnish society by developing and implementing innovative policies, programs, and services. Within the next decade, the age structure will see its most dramatic shift to date as the baby-boom generation, born in the second part of the 1940s, begins to enter retirement age. The number of individuals who need services for health care is rising, therefore the government is taking measures to meet that demand. Many are turning to technological advancement as a partial answer to the dual problems of an aging population and a shrinking work force (i.e., the number of caretakers and taxpayers).

In particular, robotics and automation may enhance services and provide new opportunities for caregiving by fostering the freedom and autonomy of the elderly. In light of this, there is a need for more medical professionals to address this issue. However, new technologies are filling the voids in promoting and maintaining the health of the elderly population. The Finnish government supports these forward-thinking policies for the benefit of its citizens, rather than using them to pad its budget. As long as the elderly and all citizens of the country get the best services and care from the authorities and vice versa, it promotes a cohesive and tranquil living environment, which is essential to maintaining a prosperous society.

6. 1 Limitations and Strengths

When research is conducted in a group, members have a deeper familiarity with the articles being evaluated and, as a result, gain new perspectives on the research process and its presentation. Our study's increased efficiency and quality are the result of a more diverse set of abilities being put to use. Furthermore, working with others allows us to better understand

our own capabilities and growth areas, while also enhancing our interpersonal skills. The present research, like most others, has flaws in its design. This research does not present a comprehensive picture of these evaluations, despite the authors' best efforts to highlight their salient elements. It's likely that the thesis's topic and research concerns can't be adequately covered by the thirty publications that were cited, in which case additional thorough and authoritative sources will be needed (Holthe, et. al., 2022). We relied only on English-language research, so it's possible that other academic publications published in other languages might focus on other elements of technology or provide somewhat different findings. In addition, the writers lack access to a broader selection of scientific literatures since such literatures need to be acquired, making data collecting a time-consuming process. Further44, this is the investigators' first foray into qualitative research. Due to the large amount of data collected, processing and interpreting it takes a considerable amount of time. While the benefits of group work are clear, it may be difficult to implement so many different suggestions into a unified whole.

Chapter 7. Conclusion and recommendations

Analysis of the data uncovered allows for a concrete illustration of how technology progress has improved the lives of the elderly. Drawing on the wide range of current technical breakthroughs employed in regulating the ageing population, technologies have proven advantages and have a substantial influence on the lives of the elderly, who are the demographic group with the highest costs of health care and long-term welfare services. This research demonstrates that many of these technologies present an opportunity to lessen the load on both elderly patients and their families, to address the workforce shortage and financial strains associated with long-term care, and to enhance the safety, protection, social interaction, self-esteem, esteem, comfort, independence, and quality of life for the elderly (Ibarra, et. al., 2020). Besides helping older persons maintain and enhance the quality of life, beneficial technologies provide hope for resolving some of the problems plaguing the global health care system as a whole.

In conclusion, the study found that a single effort focusing on only one aspect of an older person's life is unlikely to solve the underlying problem of isolation while still making advantage of mobility and communication technologies. As the investigation unfolds, we learn more about the interconnections between mobility, communication, and technology. It's clear that there's a lot of nuances involved in the connections between loneliness, ageing well (as measured by the SOC model), and the usage of various forms of electronic communication. Working on one facet of the successful aging environment while disregarding the others is likely to impair the efficacy and usefulness of any intervention, as this research warns policy makers, planners, and technologists.

This study also shows that older adults do not view communication technology as the primary resource for combating loneliness, and that bolstering an individual's support network may not alleviate loneliness unless other factors, such as family and inspiring optimisation behaviors, are also taken into account. In addition, a person's loved ones are more likely to be involved in an older person's decision to use CT to consciously alter their ES (Kelly, et. al., 2017). This is the most common scenario in which a family member may advocate for or request CT, and the elderly person will participate in the procedure without experiencing any regret. The significance of the respondents' narratives regarding the value of stationary physical activity (SPA) as a buffer against isolation cannot be overstated. This study's findings provide support for the overarching concept that adaptive resource mechanisms are

crucial to a complete understanding of effective aging, which is the primary research issue that the study came out to address.

Successful aging now requires measuring not only how lonely someone is, but also how open they are to new ideas and how well their resources can adjust to new situations. The possibility of denying the existence of loneliness, as shown in Study One, reinforces this notion. This has crucial implications, not the least of which is the need to constantly qualify self-report further when gathering information about loneliness.

Although the emphasis of this study was on the use of technology to reduce feelings of isolation, it was found that respondents were more likely to utilize technology if they had a strong social network of friends and family nearby. It is hypothesized that this suggests elderly people don't see the value of using communication technologies to combat isolation since they aren't motivated to do it on their own.

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