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Digitalization of the public healthcare system – Internet non-users' point of view

Master's Thesis in Governance of Digitalization
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ABSTRACT

Subject: Information Systems

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Abstract:

Digitalization has radically altered the services, businesses, and world we live in. Digitalization is beneficial for the majority of people, but it is often forgotten that for some of us, such as those who do not use the Internet, it complicates many things.

This master's thesis investigates the effects that the digitalization of the Finnish public healthcare system has on Internet non-users and how they are adapting to the digitalization. Additionally, the reasons for their Internet non-use are studied.

The research is conducted utilizing qualitative methods. The data for this research was collected via interviews in February of 2022. Eight participants with the median age of 84 participated in the interviews.

This study's literature review focuses on three major topics: digitalization, the public healthcare system in Finland, and internet non-use among older adults. The data analysis is conducted via thematic analysis, and the theory of inductive reasoning is included to explain the process behind the research.

The findings concluded that a majority of the Internet non-users have difficulties managing with the digitalization of the public healthcare system, and the digitalization has caused negative effects on Internet non-users' healthcare-related matters.

Keywords: digitalization, digital transformation, Internet non-use, information systems, public healthcare, digital immigrants	
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1 INTRODUCTION

This first section of the thesis will introduce the topic of the thesis and the context for the study proposal, which justifies the need for research of the subject. In addition, it will present the research questions, the objectives for the research, and finally, the structure of the thesis, containing a summary and explanation of the contents of each of the study's chapters.

1.1 Background of the topic

Digitalization reportedly began in the 1980s, after computers had already been around for some time. Midway through the 1990s, many households gained access to the Internet, while the world wide web was simultaneously created. Fast forward to the world we live in now; where being digital is still important, but it is no longer a competitive advantage; it is merely the cost of doing business. (Daugherty, 2019) In 30 years, which, is not all that long, a tremendous amount of progress has been made due to digitalization. Digital technologies have developed more rapidly than any other innovation in human history, transforming societies and reaching approximately fifty percent of the developing world's population in less than two decades. (United Nations, 2020) The rapid evolution of businesses and services, makes you wonder, what impact does the digitalization have on people's lives? For those of us who were either born into the digital world or were young when digitalization first began, the effects are probably minor. However, how do those, who shun technology and do not use the Internet cope with the fact that their environment is becoming increasingly digital each day?

The subject of "Digitalization of the public healthcare system – Internet non-users' point of view" was conceived after hearing and reading Internet non-users discussions about the fact that taking care of matters has become more difficult as a result of digitalization, and additionally noticing the research need of this topic. Internet non-users are difficult to reach, making it difficult to include their experiences, feelings, and perspectives in research, so they are not often included in studies. This was one of the primary reasons for wanting to study this topic further and recognizing its significance, so that Internet non-users' voices could be heard, and us, who cannot relate to their lives, could gain a deeper insight of how they are coping with the digitalization. The

specific topic of digitalization of the public healthcare system was selected because the topic needed to be constrained and there was a desire to study precisely how digitalization has impacted a service that is essential for all individuals. Additionally, it is advisable to note, that this study focuses on Finns, and the digitalization of Finland's public healthcare system.

A preliminary search was conducted regarding research done on the effects of digitalization on Internet non-users. Quite quickly, it became apparent that there were no studies that addressed this specific topic. Separately, research has been conducted on Internet non-use and digitalization, but not when the two topics are combined. According to a Finnish study on the digitalization of the public healthcare system, the digital transformation of services has the potential to lead to inequalities and exclusion, as well as to limiting access to information and services. To ensure equal access to social and health information and services in the future, it was determined that e-commerce barriers must be removed. In addition, it was stated that services must be made available to those who cannot engage in electronic transactions. (Hyppönen & Ilmarinen, 2014) However, these were merely topics included in the study; no evidence of their actual execution was discovered. This led to the identification of a research gap in this field. This master's thesis seeks to provide information on how Internet non-users are adjusting to digitalization and how it has affected to their lives.

1.2 Objectives and research questions

Internet users may find it difficult to comprehend the lives of Internet non-users. There are difficulties and modes of operation that are not readily apparent to the rest of us, many things that are simple and obvious to us can be extremely challenging for them. In addition, when discussing digitalization, it is evident that it affects the lives of internet users too, but we can easily adapt to these effects, and they are generally positive. Internet non-users are in a totally different situation. Consequently, the purpose of this study is to determine how the digitalization of the public healthcare system has affected issues pertaining to Internet non-users' healthcare, how they are adapting to the digitalization, and what factors have led to their status as Internet non-users. The objective is to shed light on a topic that has received relatively little attention and to increase the understanding of the perspectives of Internet non-users. In addition, it is

intended to collect ideas on how information systems and services could be enhanced to better meet the needs of Internet non-users.

The main research question of this research is: *How are Internet non-users managing with the digitalization of the public healthcare system?* In addition, there are four sub-questions that should aid in answering the primary research question:

1. How has the digitalization of the public healthcare system affected matters related to Internet non-users' healthcare?
2. Are there differences in experiences between the non-users?
3. What improvements could be done to match the needs of Internet non-users?
4. What are the reasons resulting in Internet non-use?

This study attempts to provide new hypotheses about the topic, and its primary objective is to acquire information that is currently unavailable due to a lack of previous research on the subject.

1.3 Structure of the thesis

The first chapter of the thesis provides background information on the topic of this research, as well as an explanation of the objectives and research questions. This section concludes by describing the structure of the thesis.

The second chapter presents the literature review, which consists of previous studies and pertinent information on the topics related to this study. Three topics are explained: digitalization, the public healthcare system in Finland, and Internet non-use among older adults.

The third chapter addresses the methodologies utilized in this study. The chapter discusses the fundamentals of qualitative research as well as the data collection and analysis methods selected for this study. It also describes the interview questions and the interview process. Following their discussion, the research model is explained.

The fourth chapter presents the results of the interviews and data analysis. The results are presented under two themes: the digitalization of the public healthcare system and Internet non-use, which correspond to the two topics addressed in the interviews.

The fifth chapter presents the discussion. It discusses the relationship between the received results and prior research, as well as how well the results answer the research questions of this study.

The sixth chapter presents the conclusion of this research. It presents the key findings of this study and discusses the limitations and critical overview of this study as well as the suggestions for future research.

In addition, there is a seventh chapter at the end of this thesis, which is not a part of the study itself. Chapter 7 contains the appendices, which contain the original Finnish materials and their English translations used in this study.

2 LITERATURE REVIEW

This chapter includes the definitions of the three main concepts of this study. It presents the academic literature and previous research that has been conducted within the subjects of digitalization, the public healthcare system in Finland, and Internet non-use among older adults.

2.1 Digitalization

The term “digitalization” was first used in conjunction with computerization in a 1971 essay published in the North American Reniew, where Robert Wachal examines the social implications of “digitalization of society” while debating the merits and limitations of computer-assisted humanities research. (Brennen & Breiss, 2014) Digitalization refers to the incorporation of digital technologies into social and business processes. Digitalization is a malleable concept. (Kraus et al., 2021) Since its inception, writing about digitalization has developed into an enormous literature – one that is less concerned with the specific process of transferring analog streams of data to digital bits or the specific attributes of digital media than with the ways in which digital media structure, form, and impact the contemporary word. In this context, the term digitalization has grown accustomed to the process by which numerous and diverse domains of social life are structured around digital communication and media infrastructures. (Brennen & Breiss, 2014)

Digitalization is not synonymous with digitization; the two are, in fact, distinct concepts. But to understand digitalization, familiarizing yourself with the concept of digitization is essential, for the reason that digitization is one of the basic requirements of digitalization. (Brennen & Breiss, 2014) Digitization is the process of converting physical data to digital data. Digitization is demonstrated well when scanning a paper document into a digital copy. Digitized information enables data compression, which enables managed storage in large volumes. That is, because digital data is easily manipulable, it gives users additional control over information. This additional control empowers users to shape their own interactions with it. In other words, digitization enables a high level of interaction between users and the information. Due to the fact that digital bits can only be in one of two states, 1 or 0, receiving nodes are likely to

make lower error rates when transferring and decoding data than in analogue systems. According to scholars, this could result in lossless transmissions, resulting in fewer errors and replications of errors and more possibilities for precise processing and calculation. (Brennen & Breiss, 2014)

Digitalization has been identified as a significant trend that is transforming society and business. Digitalization pervades all organizational structures, processes, and systems, not to mention the corporate culture. To ensure long-term competitiveness and, at the very least survival, digitalization must be approached strategically. (Lipsmeier et al., 2020) Digitalization is not a removable trend in which businesses have the option of participating or not participating. Digital business transformation is not simply about automating or integrating technology into existing processes in order to optimize the current value chain, but also about modifying the business model, altering the value chain, and inevitably creating a new supply of products and services that result in a new and improved way to provide customer value. Modernization, reasoning, and simplification of existing business processes is required, as well as the development of new critical processes to support the new business rethinking. Businesses undergo changes as a result of the adoption of digital technologies within the organization or operating environment. (Robledo, 2017)

Digitalization has enormous potential benefits: by digitalizing information-intensive methods, cost can be reduced by up to 90% and turnaround times enhanced by several orders of magnitude. (Parviainen et al., 2017) Digitalization typically transforms the relationship between businesses and their customers and usually increases cash flow. (Kraus et al., 2021) In addition, by automating paper-based manual processes, companies can collect data that can be extracted to gain a better understanding of process performance, cost drivers, and risk factors. Real-time reports and dashboards on the performance of digital processes enable organizations to address issues before they come critical. Apart from organizations, digitalization has also been shown to have a positive effect on unemployment, quality of life, and citizen access to public services. Finally, digitalization is said to enable governments to be more transparent and efficient in their operations. (Parviainen et al., 2017)

2.1.1 Negative sides of digitalization

For the reason that this study makes the assumption that digitalization has some possible negative consequences, it is appropriate to learn about research that has been conducted on the negative sides of digitalization. The literature of negative sides of digitalization is unfortunately still in its early stages and has not been researched enough (Turel et al., 2021), and while other studies regarding digitalization have concentrated on the positive aspects of digital development, the potentially surprising and dark aspect of digitalization have received far less attention. (Trittin-Ulbrich et al., 2021) Individuals, institutions, and societies have reaped numerous benefits from the adoption and use of digital technologies. Regardless of the positive aspects of digitalization, the revolution has been aggressive, swift, and immense. As with previous revolutions, the rise of digital technologies has revealed a number of "dark sides" that will have grave consequences on a personal, organizational, and cultural scale. (Turel et al., 2021)

At the individual level, notable findings have shed light on issues such as technology addiction, technologies inappropriate use, general and technology related stress, insecurities, negative health outcomes, security and privacy worries, and cyberbullying. Individual's adverse effects of digitalization can affect everyone, from children and young adults to their parents. (Turel et al., 2021) While this study focuses on the effects of digitalization at an individual's level, organizational issues have also been raised in previous research, such as employee's continuous connection to their jobs, issues and interruptions that are technology related, cyberloafing (i.e., using your Internet access at work for personal use, while pretending to work), and decreased control over work. Similarly, research on the dark side of the digital economy has concentrated on the negative societal and economic consequences of digitalization, such as job loss or displacement due to automation, as well as the challenges posed by e-commerce. (Turel et al., 2021) While some research has been conducted on the various effects of digitalization, at the time of this study, none were discovered that discussed the effects of digitalization on Internet non-users.

2.2 The public healthcare system in Finland

The Finnish healthcare system is based on equal access to healthcare services for all residents of the country. According to Finnish Constitution, public authorities are

required to ensure that everyone has access to adequate social, health, and medical services. Additionally, Finland has a wide range of private healthcare providers. Municipalities are currently responsible for organizing and funding health care. A municipality can organize services by providing them directly or in collaboration with other municipalities, or by contracting with private companies or organizations to provide them. Treatment can also be purchased from abroad if necessary. Hospitals typically provide specialized medical care in their jurisdiction. Additionally, joint municipal authorities are part of five catchment areas for highly specialized medical care, which are formed by the Helsinki, Turku, Tampere, Oulu, and Kuopio University Hospitals. These facilities provide the most requiring treatment. (EU-Healthcare, 2022)

The public healthcare system is, however, in a constant state of transformation and reform. Finland's public healthcare, social welfare and rescue services will be restructured in the near future. From 2023, municipalities will hand over responsibility for organizing these services to wellbeing services counties. The reform's primary objective is to increase the availability and quality of essential public services throughout Finland. (Sote-Uudistus, n.d.)

2.2.1 Digital transformation

Finland is a world leader in electronic data management for health and welfare. (FSTeH, 2020) The digitalization of the entire administrative sector is carried out together and coordinated as a whole. All agencies and institutions in the administrative sector formed common goals in the spring of 2016, and the guidelines for digitalization were published in September 2016. (Sosiaali- Ja Terveysministeriö, n.d.) The digital transformation of the public healthcare system started, however, a lot prior to that.

The basic Kanta services have been gradually implemented since 2010. Kanta develops software for the social welfare and healthcare sectors. These services benefit both citizens and providers of social welfare and healthcare. As a citizen, you can access your own medical records and prescriptions online in MyKanta, as well as order prescription renewals. Kanta services ensure that the patient's information is always up to date and accessible during health-related visits. It is said that Kanta services benefit you even if you are not a user of information technology, because a seamless flow of information within the healthcare system enables a higher standard of care. (Kanta.fi,

2021) Chief specialist of the Finnish Institute for Health and Welfare stated in 2020 that MyKanta was used by 2.4 million Finns in the previous year alone. There were approximately 20.9 million unique logins. He mentioned to be especially proud of the user demographic: nearly one-third of citizens over the age of 75 had used the service at least once. (FSTeH, 2020)

Not only the Kanta-services have evolved as a result of the digital transformation: the process of booking appointments has evolved as well, with the addition of an option for online appointment booking. According to a previous study, services that allow you to view your information, schedule an appointment, and obtain reliable health information are becoming essential. (Hyppönen & Ilmarinen, 2014) To demonstrate the state of digital services in prior years, the table below summarizes the services provided digitally via web pages in 2014:

	Health care center %	Special health care %	Public social services %	Private health care services %	Private social services %
Informative webpages	100	100	>95	100	80
Electronic feedback	55	67	63	72	38
General information about welfare, self-evaluations, tests	32	29	55	-	14
Advising without identification	15	33	7	28	5
Advising requiring identification	16	14	-	16	-
Online appointment booking (at least for one service)	49	81	71,97	72	3
Video conference	7	14	31	-	7

Table 1: Services provided via web pages in 2014

Of course, the digital transformation has accelerated year after year, and the situation is far more advanced today than it was in 2014. The Covid-19 pandemic resulted in

massive increase in the use of digital services. Both the supply and use of existing e-services increased, and new e-services were introduced on a rapid timeline. (Government's analysis, assessment, and research activities, 2022) To give an example, a study made in 2017 with 1000 Finnish participants revealed, that only 4% had used remote-doctor services. (Tuhat Suomalaista-Tutkimus, 2017) If the same study were made now in 2022, the number would be increasingly higher. There is, however, a severe lack of comprehensive, up-to-date, and researched data on the rapid growth of digital services and their expansion into a variety of services in Finland and elsewhere. (Government's analysis, assessment, and research activities, 2022) New information is needed on for example the effects of digital services, and their quality and safety, which this study is aiming to provide.

2.2.1.1 Concerns

The primary barriers encountered while using the digital services were lack of trust in them, insufficient ability, and desire to use them (e.g., lack of computer or Internet connection, insufficient skills, and disinterest in digital services), and doubts about their effectiveness. Multi-channel guidance should be considered when managing the use of electronic services, so that the customer can receive guidance and learn in the most effective manner. Professionals play a critical role in identifying those customers who require additional assistance in using electronic services. (Hyppönen & Ilmarinen, 2014)

Previous research demonstrates that elderly, those who perceive themselves to be in poor health, those with less education, and those who are not employed lack the skills and frequency with which they conduct errands electronically. Thus, the digital transformation of services has the potential for causing inequalities and exclude the previously mentioned groups in terms of self-stuffiness, access to information, and access to services. To ensure equal access to social and health information and services in the future, barriers to e-commerce must be addressed. Additionally, services must be made available to those who are unable to transact electronically. Even at this stage, it appears as though groups expected to benefit most from electronic access to information and services have been left out of the digital revolution. Along with the ease of access, it is critical to identify the unique needs of various customer groups and then tailor services to meet those needs. (Hyppönen & Ilmarinen, 2014)

2.3 Internet non-use among older adults

Since the 1990s, the generation of older adults have been involved in the digital transformation of society. They have contributed to the development and transition of various everyday practices. (Yazdani-Darki et al., 2020) Despite these significant contributions, older adults are often portrayed as a barrier to the widespread use of technology and, therefore, Internet use is continuously negatively associated with age. (Köttl et al., 2021) Older adults are frequently accounted as technophobic, incapable, or not willing to engage with Internet and digital services. (Köttl et al., 2021)

Below is a table provided by Statistics Finland, which is altered to present statistics from the two oldest age groups. The table indicates the prevalence of Internet usage (during a period of three subsequent months in 2020) and certain purposes of use in percentage share of the population.

Age	Used the Internet	Usually uses the Internet several times a day	Online shopping	Making Internet calls	Following social network services
65-74	88%	62%	25%	55%	46%
75-89	51%	30%	8%	19%	16%

Table 2: Prevalence of internet usage and certain purposes of use in 2020 (Statistics Finland)

According to a 2020 study conducted by Statistics Finland, and as shown in the table above, approximately 49% of people over the age 75 had not used the Internet in the previous three months, which may indicate that these individuals do not use the Internet at all or very infrequently. Additionally, the same study provides the information, that even though the majority of Internet non-users in Finland are aged 75 and above, the youngest Internet non-users are within the age group of 55-64. (Statistics Finland, 2020)

In addition, there are numerous studies that provide statistics on Internet use among older adults in Europe. The Netherlands has the highest usage rate, with 97 percent of all people aged 16 to 75 having access to the Internet at home and only 19 percent of those aged 65 and older not having access. (CBS Statistics, 2013) Gallist, Rohner,

Seifert, and Wanka discovered in their 2020 study that 46.1 percent of individuals 65 and older in Austria had not used the Internet in the last seven days or had never used it at all, which is statistically quite similar to Finland. Internet use and Internet access are nonetheless highly related to socio-economic factors, and it is supposed that around half of Europeans who are 50 years or older are not online. (König et al., 2018)

There are also indications that Internet non-users are quite opposed to beginning to use the Internet, despite having the opportunity to do so. According to a study conducted by van Deursen and Helsper, only 13% of the 221 Internet non-users participating in their study, indicated that they would be willing to use the Internet in the future. In addition, only 7% of respondents who already had Internet connection at home indicated that they might use it in the future. (van Deursen & Helsper, 2015)

2.3.1 Digital divide and exclusion

Before the 1990s, there were terms such as information inequality, information gap or knowledge gap, when discussing those who can and cannot access Internet. After some time, the media started to focus on a concept that was called digital divide, which later ruled out these previously used terms. (van Dijk, 2006) The digital divide is one of the most common frameworks when conversing about Internet non-use. Digital divide refers to the gap between those who can and those who cannot access the Internet. Digital divide is usually caused by lack of digital literacy, low levels of formal education, and is also associated with poor access to technological devices. Older adults are often pushed towards social and digital exclusion as a result of demographic and sociocultural differences. (Merskin, 2020) A definition presented by Schejter and Warren is that digital exclusion is when a certain part of the population have persistent unequal capacity and access to information and communication technologies, which are essential to gain insight into and partake in society. (Schejter, 2015; Warren, 2007).

Therefore, the groups that are at the highest risk of digital exclusion are those who are disadvantaged in a traditional socio-economic sense. Lack of access to the Internet and, therefore, lack of access to the services and information that the Internet provides are major factors for older adults' digital exclusion. Digital exclusion may also cause feelings of social exclusion since it can disallow them from participating in certain areas in their everyday lives. (König & Seifert, 2020) The distinction between those who do

and those who do not have access is not, however, the best approach to understand why people do not use various platforms.

2.3.2 Reasons for Internet non-use

It is known that factors like good health, previous experience with technology, having greater socio-economic resources, and being male all increase the probability of Internet use in later life. (König et al., 2018) According to the findings by König and Seifert, it is extremely important to investigate what the influencing factors in both directions are: when older adults become users and when they become non-users of the Internet. (König et al., 2018)

The reasons that lead to Internet non-use among older adults logically varied depending on the situation, but there are also some consistently mentioned reasons that have emerged in multiple previous studies.

2.3.2.1 Physical problems

Firstly, there are physical problems that can be a major barrier for Internet use. Some participants from a study generated by Köttl, Gallistl, Rohner, and Ayalon had reported vision problems, which led to difficulties when looking at a smart phone, tablet, or computer screen, or when typing. (Köttl et al., 2021) Conditions such as back and neck pain, and hand tremor are also common issues that make technology use demanding for older adults and, therefore, it also resonates to their Internet use. (Yazdani-Darki et al., 2020)

2.3.2.2 Educational limitations

Educational limitations are very common barriers for older adults' Internet use. Previous research indicates that for instance, unfamiliarity with language and terminology may lead to technology and Internet non-use. Other educational limitations are low levels of literacy, particularly limited electronic literacy, and overall knowledge deficit, which are all barriers for Internet use. (Yazdani-Darki et al., 2020)

2.3.2.3 Limited access to technology

It is argued that individuals who have had a career where technology was used are significantly more likely to use the Internet at an older age. (König et al., 2018) If a

person has not previously had experience of or access to technology or the Internet, it is less likely that he or she will start using them later in life. Financial issues and environmental limitations may also lead to limited access to technology.

2.3.2.4 Feeling too old

One of the most common reasons for Internet non-use is age. Previous research conducted on internalized ageism states that as we grow up, age stereotypes and prejudices are something that individuals embody from their surrounding environments and, therefore, they become extremely internalized. Considering older adults: age stereotypes may result in negative effects on mental and physical functions or lead to withdrawal from certain activities, which leads older adults to think that they are "too old" to use Internet. Advanced age may cause cognitive changes that can affect the speed of processing new matters, memory, learning, and other executive functions relevant for technology and Internet use. (Köttl et al., 2021)

2.3.2.5 Fear of mistakes

The concepts of Internet and technology can be quite challenging to comprehend for some older adults, so naturally fear about potential mistakes, e.g., accidentally sharing private information, or fear of Internet safety, are concerns that can cause Internet non-use. These fears not only surround the user themselves, but also family and friends of the elderly and, therefore, they may avoid giving instructions to the elderly so they can prevent these mistakes from occurring. (Yazdani-Darki et al., 2020) In addition, numerous participants in two previous studies expressed concern about what their younger relatives, such as children or grandchildren, would say if they make errors and require assistance. These participants expressed very similarly that their relatives lack the patience necessary to educate them and can be extremely rude and critical of the elderly who are attempting to learn, which can result in the elderly giving up on learning altogether; this also, can result in Internet non-use. (Köttl et al., 2021; Yazdani-Darki et al., 2020)

2.3.2.6 Lack of time and high connection costs

Older adults tend to lead active lives, even though they are retired. Retired individuals' weeks can be filled with various activities and hobbies, household chores, trips, babysitting etc., and they might not have enough time to educate themselves in

technology use and the Internet. Those non-users with a higher level of education are considered to have more acceptable reasons to have a busy lifestyle, even when retired, than those with a lower level of education. (van Deursen & Helsper, 2015)

One reason that was also consistently raised in research done by van Deursen and Helsper was the high cost of Internet connection, which can be too much for the elderly on small monthly budgets. (van Deursen & Helsper, 2015)

2.3.3 Theory of digital natives and digital immigrants

As discussed previously, the youngest Internet non-users in Finland are between the ages of 55 and 64 (Statistics Finland, 2020), implying that all of them are so called digital immigrants. The theory of digital immigrants is important to consider in this research because it aids in comprehending the world of the participants in this study and why they may think and behave in a certain way. The theory of digital immigrants and digital natives were invented by Marc Prensky in 2001. Digital natives are typically born after the 1980s and are at ease in the digital age, having grown up with technology and are so called "native speakers", whereas digital immigrants are those born prior to the 1980s and are occasionally fearful of technology. In addition, some digital immigrants frequently lack appreciation for the new skills that digital natives have acquired and honed over years of interaction and practice. Digital immigrants are deemed to be much less technically skilled than digital natives, and it is asserted that they will never attain the same level of digital skills and expertise as digital natives. (Hoffmann et al., 2014) There are a few determined groups of digital immigrants:

1) Avoiders (the target group of this study): They prefer a low tech or no-tech lifestyle. They lack access to email and/or smartphones and find Internet and social media too overwhelming and do not see value in these activities.
2) Reluctant avoiders: They acknowledge technology and attempt to interact with it but find it unintuitive and difficult to use. They own a cell phone but do not text, they may occasionally use search engines but usually do not have social media accounts. They do, however, have an email and conduct online banking transactions.
3) Enthusiastic adopters: They are enthusiastic adopters who have the capacity to keep up with the natives. They are technically advanced and may be high-tech

> executives, programmers, or business professionals. This group recognizes the value of technology. (Cut, 2017)

Prensky's theory of digital immigrants and digital natives has, however, received some criticism. For instance, rather than viewing the distinction between digital immigrants and digital natives as a binary, it is suggested that the distinction should be viewed as a continuum, as some people are technologically more capable than others. (Wang et al., 2013)

3 METHODOLOGY

This chapter discusses the methodology used in this study. It includes an introduction to the primary research method, a discussion of what are the reasons that the method was chosen for this study, and a description of the methods used in the data collection. Additionally, the data collection process is explained, as well as the methods used to analyze the data.

3.1 Qualitative research

Methodologies guide inquiries by indicating which problems are worth investigating, how to frame them for exploration, how to generate appropriate data, and how to make the logical connection between the problem, data generated, analysis, and conclusions/inferences drawn. Methodologies are inextricably linked to methods and are frequently defined differently depending on the researcher's philosophical stance. (Kaplan, 1964)

Qualitative research employs a variety of methods, including in-depth interviews and in-depth analysis of archival materials, and is concerned with providing a comprehensive account of a particular event or unit. While qualitative research, like quantitative research, can be used to investigate a wide variety of topics, it tends to focus on the meanings and motivations underlying cultural symbols, personal experiences, phenomena, and detailed understanding of social processes. To summarize, qualitative research concerns with comprehending processes, experiences, and the meanings that people attribute to things. (Aspers et al., 2019) Qualitative research is frequently used to conduct open-ended studies, allowing participants to express their true emotions and behaviors without being guided. Additionally, it is used to answer the "why?" or "how" questions. (The FullStory Education team, 2021)

The formal definition can be supplemented with the following more pragmatic guideline: Qualitative research typically involves the collection of data in the form of words rather than numbers. (Busetto et al., 2020) To more clearly illustrate the distinction between qualitative and quantitative research, Bryman & Bell created a table that is seen below:

Quantitative	Qualitative
Numbers	Words
Point of view of researcher	Point of view of participants
Researcher distant	Researcher close
Theory testing	Theory emergent
Static	Process
Structured	Unstructured
Generalization	Contextual understanding
Hard, reliable data	Rich, deep data
Macro	Micro
Behavior	Meaning
Artificial settings	Natural settings

Table 3: Contrast between quantitative and qualitative research (Bryman & Bell, 2011)

Focusing on multiple methods, qualitative research takes a naturalistic, interpretive approach to its subject matter. This implies that qualitative researchers examine elements of the natural contexts, attempting to make sense of or interpret phenomena in terms of the meanings people ascribe to them. In conclusion: case study, personal experience, introspective, life story, interview, exploratory, historical, interactional, and graphic texts that explain routine and troublesome moments and interpretations in the lives of individuals are collected and analyzed in qualitative research. (Denzin & Lincoln, 2005)

3.2 Data collection

Given that the purpose of the research is to elicit personal experiences, viewpoints, and information from a specific group of people, the most appropriate method of data collection is through interviews. The majority of qualitative research utilizes interviews, and they are frequently used in phenomenological research because they rely on first-person accounts of experience. (Fossey et al., 2002) Interviewing is a collection of techniques used to elicit data from individuals and/or groups through the use of structured, semi-structured or unstructured questioning formats. In general, semi-, or unstructured, open-ended, informal interviewing is preferred because it allows greater flexibility and responsiveness to emerging themes on the part of both the interviewer and the respondent. (Jackson et al., 2007) Qualitative research interviews are designed

to obtain participants perspectives on their lives as depicted in their stories and thus to gain access to their feelings, experiences, and social worlds. (Fossey et al., 2002)

3.2.1 Process of the interviews

The process of conducting the interviews began with the identification of potential interview subjects and making some limitations. Considering the study's objectives, it was decided to limit the target group to individuals with the following features:

- Aged 70 years or older
- Do still manage their own affairs independently
- Do not use the Internet at all

Due to the fact that the study's target group is quite difficult to reach because of their lack of Internet use, quite innovative measures had to be taken. The search for participants began with an email to various pensioners unions, inquiring whether they had any members who fit the research's target group and would be willing to participate. This method resulted with receiving the participants contact information. The interviews took place in February 2022 and all of them were conducted via phone, mainly due to the Covid-19 situation at the time, but also because the participants came from across the country.

The information that is gathered during data collection should be recorded in such a way that it not only enables the researcher to analyze the data, but also to describe subjective meaning and social context derived from the data. For instance, if the analysis' objective is to ascertain the meanings attached to a situation as expressed by interview participants, verbatim transcription of the participants own words during the interviews is critical to ensuring that their voices are heard during the analysis and interpretation. (Fossey et al., 2002) For the reasons mentioned above, all interviews were recorded, and permission to record was obtained at the start of each interview. Additionally, it was noted that their responses would be used in this study, though their identities would remain anonymous. Additionally, it was ensured that they could inform the researcher if they did not want certain parts of their answers to be used in the research.

3.2.1.1 Structure of the interviews

The interview structure is semi-structured, with predetermined questions but with room for the participant to respond in any way they feel is necessary or important. The interviews consist of ten open questions and five background questions. The background questions included questions of their age, gender, residence, highest level of education, occupation prior to retirement, and the year of retirement. The final three background questions were included to examine those relationship with the participants' Internet non-use. The open questions were divided within two themes: questions related to the subject of public health care and questions related to the subject of Internet non-use. The interview questions were chosen in order to elicit responses to the research questions. The number of questions was chosen to avoid the interview taking too long while still obtaining as much information as possible.

When interviewing an older adult, it is important to note the language of the interview. According to Pachana and Laidlaw, the interview should be conducted at the client's comprehension level. Avoiding jargon, idioms, and slang terms is in order. Additionally, it is preferable if the interviewer provides multiple definitions for specific terms. For example, while older adults may not express "worry" or "anxiety," they are more likely to express "concern" or "nervousness." (Laidlaw, K. Pachana, N. 2014) This was taken into consideration while writing the interview questions, as well as when performing the actual interviews. The interview questions are presented here in English, with the original Finnish questions available as an appendix in chapter 7. The questions related to the public healthcare were as follows:

1) What thoughts/feelings does the digitalization of public healthcare services evoke in you?

2) How do you manage with the fact that the healthcare services change/reform constantly due to the digitalization?

3) Has the digitalization of public healthcare services had any effect in taking care of matters related to your healthcare, and if so, what? (For example, booking appointments etc.)

4) Has the digitalization of public healthcare services had any overall effect on your healthcare, and if so, what? (For example, treatment of a disease, receiving instructions, treatment in medical centers/hospitals etc.)

5) What thoughts/feelings does the fact that you are unable to use digital healthcare services evoke in you? (For example, digital appointment booking systems or MyKanta)

6) How could the public healthcare services be improved to match better the needs of an Internet non-user?

The questions within the theme of Internet non-use were as follows:

1) List all the reasons why you do not use the Internet?

2) If you have used the Internet previously, what were the reasons for quitting?

3) What certain factors could result with you starting to use the internet?

4) What thoughts/feelings does a potential use of Internet evoke in you?

The interviews lasted about 20 minutes on average, although, some of them lasted nearly 30 minutes due to additional conversations. The total duration for asking and answering the interview questions was approximately 15 minutes.

3.3 Data analysis

Qualitative data analyses, in a broad sense, give meaning to a data set by incorporating qualitative data from a variety of sources. Qualitative data analysis has a variety of connotations, as it is frequently associated with a specific methodology, theoretical perspective, research tradition, and/or field. To name a few commonly used qualitative data analysis methods, there are for example: grounded theory approach, content analysis, thematic analysis, and basic interpretive analysis.(Lester et al., 2020) There is, however, no single correct way to analyze qualitative data, but even so, it is critical to discover ways to think with the data. (Coffey & Atkinson, 1996)

Qualitative data analysis is essentially the process of interpreting, theorizing, or making sense of data by first segmenting it into segments that can be classified and coded, and then establishing a pattern for the entire data set by correlating the categories. (Jackson et al., 2007) Finally, it usually entails bringing identified themes back together into meaningful relation with each other. The table below illustrates the data analysis process that is common to the majority of qualitative data analysis approaches:

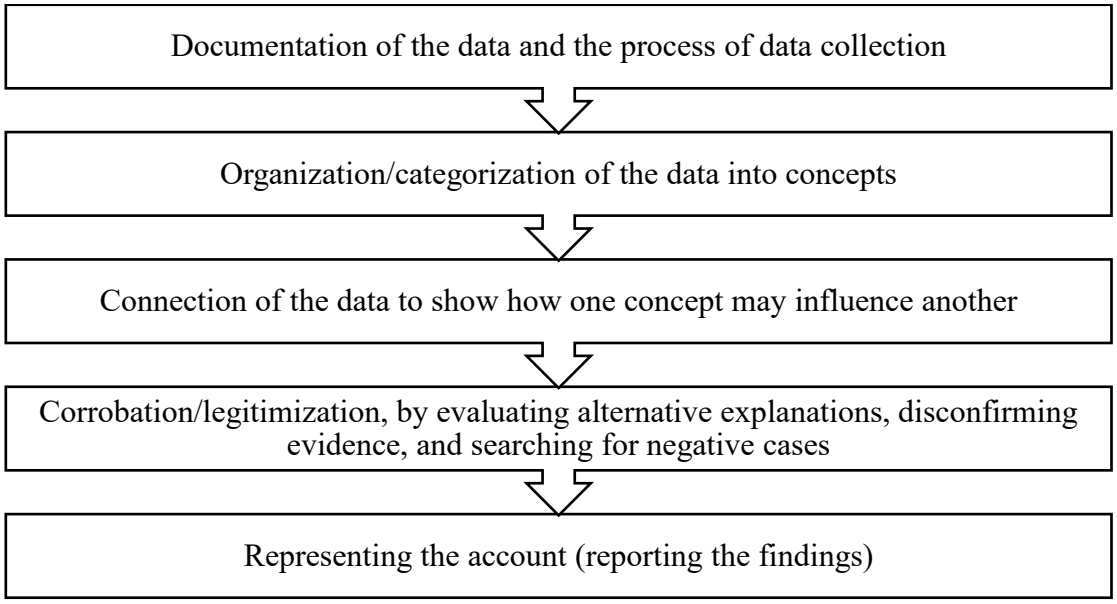

Figure 1: The different techniques that are shared by most approaches to qualitative data analysis (Schutt, R. 2014)

3.3.1 Thematic analysis

Due to the fact that the data was collected via interviews with open questions, thematic analysis is the most appropriate method of analysis for this study. Thematic analysis typically involves a constant comparative method, meaning a progressive process of classifying, comparing, grouping, and refining groupings of text segments to create and then clarify the definition of categories, or themes, within the data. In this sense, thematic analytic procedures focus on developing categories, derived inductively from the data, rather than from a Priori theory, to enable systematic description. (Fossey et al., 2002)

Thematic analysis can emphasize the social, cultural, and structural contexts that influence individual experiences in a variety of interpretivist orientations (e.g., constructivism), allowing for the development of knowledge that is constructed through

interactions between the researcher and the research participants, revealing socially constructed meanings. Thematic analysis is an effective and efficient method for comprehending a collection of experiences, thoughts, or behaviors across a data set. Due to thematic analysis's resemblance to other qualitative research methods, its steps mirror those of grounded theory, ethnography, and other qualitative methodologies that also rely on coding and searching data sets for themes as a part of their processes. (Kiger & Varpio, 2020) The data analysis in this study was guided by the six-phase framework for doing a thematic analysis by Braun & Clarke:

1) Become familiar with the data
2) Generate initial codes
3) Search for themes
4) Review themes
5) Define themes
6) Write up

The audio recordings of the interviews which contained all the data, were transcript to facilitate the data analysis process. To make the data analysis process as efficient as possible, a data management tool called Nvivo was used, which allows you to code your data to identify themes and trends more quickly.

3.3.2 Inductive reasoning

According to what is learned from previous research, there is a strong possibility that the digitalization of the public healthcare system has a detrimental effect on people who do not use the Internet. Because no research has been conducted directly on this exact subject, the foundation for this study is observational rather than factual, which results the reasoning behind this study to be inductive. While deduction is a method of reasoning in which the truth of the conclusion is guaranteed by the truth of the statements or facts considered, induction is a method of reasoning that incorporates an element of probability. Induction is a term used specifically in logic to refer to the inference of a generalized conclusion from particular instances. In other words, it refers to the process of developing a generalization based on what is known or observed. (Soiferman, 2010) The degree of certainty is determined in this instance by the strength or consistency of the evidence. In other words, an inductive inference's conclusion is

not a logical certainty. Additionally, inductive reasoning encompasses the majority of instances in which a general principle is deduced, or categories are founded based on particular observations. In practice, inductive reasoning is the rational fundament of science, and all disciplines (from physics to sociology) are founded on the inductive method. (Sauce & Matzel, 2017)

Qualitative research is frequently referred to as employing inductive reasoning or inductive thinking because it progresses from detailed observations of specific occurrences to broader generalizations and theories. The inductive approach to research begins with specific observations and/or measurements and progresses to the detection of themes and patterns in the data. This enables the researcher to generate a preliminary hypothesis that can be investigated. The exploration's findings may eventually result in generalizations or theories. (Soiferman, 2010)

3.3.3 Research model

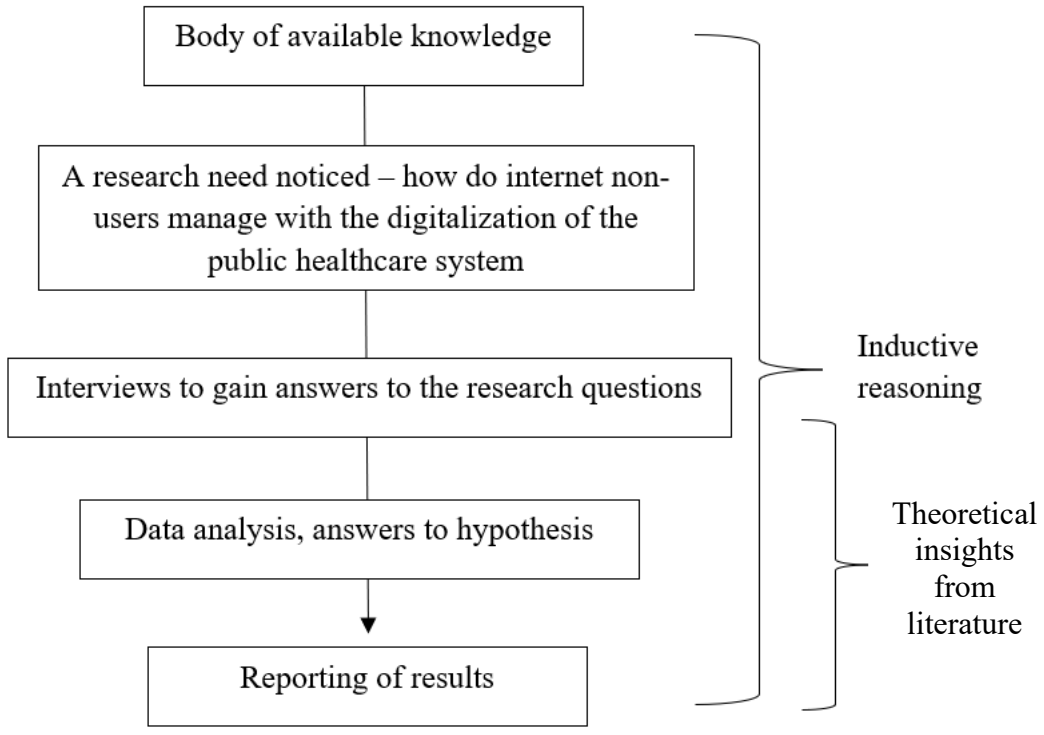

Figure 2: Research model

Above is presented the thesis' research model. A research model is the conceptual representation of the subject of this study, and it is a useful method for describing and

explaining the interrelationships of ideas. It illustrates the process of the thesis as well as the inclusion of inductive reasoning theory and theoretical insights from the literature. The research process begins with the body of available knowledge, follows with the notice of a research need, and proceeds to move forward to the data collection, data analysis, and finally, the reporting of the results.

4 RESULTS

This chapter presents the results of the interviews conducted with the two themes of digitalization of the public healthcare system and Internet non-use. Also presented is the summary of the results at the end of this chapter.

The interviews were conducted in Finnish and the text from the interviews used in this study has been translated into English. The original Finnish text is provided as an appendix in chapter 7. Due to the fact that all questions were open-ended and related to only two topics, the results are not organized by question but rather by theme. This was a more effective method of presenting the findings. There are also direct quotations from the interviews used to gain a deeper understanding of the interviewees' speech patterns and thought processes, which would otherwise be difficult to discern. It was also attempted to distribute the use of quotations as evenly as possible among the participants.

4.1 Background information of the participants

The interviews included eight participants: seven females and one male. The participants ranged in age from 76 to 88, with a median age of 84. The participants came from four different regions of Finland. This is advantageous because they represent at least four distinct healthcare districts, which indicates that they have had experiences in a variety of healthcare facilities that have potentially distinct procedures. It is essential to obtain perspectives from across the nation, because if the participants had all been from the same city or region, where the procedures are the same, their experiences would possibly not differ that much. The background information also reveals that none of the participants have a high level of education, and none of them had jobs that required internet use.

All of the participants' background information can be seen in the table below, as well as their "code names" that are used when quoting certain parts from their interviews.

Respondent	Age	Gender	Region	Highest education	Occupation before retirement	Year of retirement
R1	86	Female	Päijät-Häme	Early childhood education	Kindergarten teacher	1993
R2	82	Female	Etelä-Savo	Kettle raising school	Farmer	1994
R3	85	Female	Pirkanmaa	Teacher education	Teacher	1996
R4	83	Female	Varsinais-Suomi	Secondary school	Cook	1997
R5	76	Female	Etelä-Savo	Disabled nurse	Disabled nurse	2003
R6	88	Male	Varsinais-Suomi	Secondary school	Carpenter	1993
R7	78	Female	Päijät-Häme	Secondary school	Farmer	2002
R8	87	Female	Päijät-Häme	Seminologist	Farmer	1995

Table 4: Background information of the respondents

4.2 Digitalization of the public healthcare system

The first portion of the interviews focused on questions related to the digitalization of the public healthcare system. There were six questions (which can be found in section 3.2.1.1), with the purpose to identify potential problems caused by the digitalization of the public healthcare system, the nature of those problems, and respondents' feelings, thoughts, and overall management with the digitalization.

4.2.1 Issues arisen

After familiarizing with the collected data and noting the recurrence of certain topics, the data was first color-coded into any sections that discussed any issues caused by

digitalization and following that the issues were color-coded into three themes: appointment booking, finding and receiving information, and physical issues. These three were the most frequently mentioned themes of issues in the interviews within the subject of managing digitalization.

4.2.1.1 Appointment booking

Appointment booking issues appeared to be the most pertinent topic, as they were discussed in seven out of the eight interviews. If you are not familiar of the appointment booking process in Finland, it goes as follows: when booking an appointment at your local healthcare center, you must first call the number, then listen to a pre-recorded voice that may ask you to press certain buttons to move forward with the call, at some cases you may have the option to stay in the line and wait for an answer, but usually you have to leave a voicemail explaining why you want to book an appointment. After that, someone from the healthcare center will eventually call you back. The primary issues raised in the interviews regarding this topic were the inability to speak to a real person, the need to press buttons during the phone call, which can be confusing, and the lengthy wait until someone calls back. The following are excerpts from the interviews that illustrate the participants' perspectives:

"There are so massive waiting times when calling with the phone that it does not really work well. Last week, I tried to book myself an appointment from the healthcare center, the pre-recorded voice said that press this and press that and you are next in line, wait till someone answers, this took 45 minutes, and I was next in line this whole time, then I ended the call and hopped into a bus and went there myself. I would say that it is a fortune that my legs still work, and I can take care of my own matters, because quite frequently I must make my way to the spot. (When using a phone) sometimes I wait for an hour, sometimes four to get an answer. These are the biggest problems, and then they say that 'notice that you can also do this online'" – R3

"The pre-recorded voice answers and you can stay in line, when before it was a real human that answered. You can also leave a voicemail, but you cannot ask from a real person that what could be wrong with me, because sometimes I wonder if I book an appointment for nothing etc." – R5

"When calling to the laboratory, there is someone answering for only couple of hours a day, when previously you could call anytime. Services has been reduced very much and before you could go (to the lab) without an appointment but now you cannot anymore." – R5

"When booking appointments, it is hard to get a connection with a phone because it takes so long. It may be that I do not know how to use these things correctly, but it is more slow and quite hard but when you try and try, I have managed to make it at the end. Press this and press that…, you can manage with it at the moment, but it is slower and more complicated." – R7

It is evident from these quotations that the participants are extremely frustrated with these obstacles and long for simpler times. The shortage of personnel also appears to be a significant issue, and it is also strongly related to the effects of digitalization due to the cost savings it affords. The main theme that emerged from the interviews was the dissatisfaction with how difficult appointment-booking has become, as the calling itself is difficult and in the majority of cases you cannot speak to a real person, and then on the top of that you must wait hours for a response.

4.2.1.2 Finding and receiving information

Information-finding and information-receiving problems were the second most common issue. It may not always occur to us Internet users that Internet non-users do not have the option to search for example from Google for information. It was mentioned also that frequently hearing phrases such as "you can look this up online" and "more information can be found on our website" at the healthcare centers makes the participants feel extremely excluded. On this topic, each participant stated that they require assistance from others. Typically, they must ask a family member or a friend to conduct a search on their behalf. Therefore, they must rely on outside assistance and cannot handle information seeking on their own. As a potential enhancement, it was suggested that the local healthcare facilities could provide a booklet containing the essential phone numbers, and if an important phone number changes, there should be a very visible note of it for example in the front door or at the reception of the healthcare center. Some quotations from the interviews within this topic:

"It is very difficult to try and find some information like a certain polyclinic or some other more specific places phone number. With this I must usually ask help." – R4

"If I have to search for some information, I have to ask help from my wife. So that is one thing that I cannot manage myself anymore because I don't have Internet. If I did not have my wife, I am not sure where I would get the help, maybe I would call my children. Sometimes the phone numbers change and because you have to anyway make a call when booking appointments, where would I have gotten the information that some number had changed. It would be nice if they would inform that more obviously in the healthcare center." – R6

"Now that there are not phone books anymore and phone numbers change quite frequently, there should be a booklet of important services and hospitals and polyclinics phone numbers distributed, because when there are no phone books anymore it is quite difficult to always ask somewhere that where do I call and because sometimes when I call, the number is out of use. I do not know where to get the help." – R8

It is crucial that other individuals and healthcare providers keep in mind that searching for information is difficult for the Internet non-users and that is must be communicated in multiple ways if vital information such as phone numbers changes, so it could be possible for Internet non-users to receive the information on their own. At the moment, Internet non-users are forced to rely on others to help them find information, which may make them feel like they cannot be independent.

4.2.1.3 Physical limitations

Some problems were also associated with physical issues, specifically eyesight. Due to digitalization, there have been some changes or modifications that can be difficult for those with poor eyesight, so this is also an area for improvement. Following are a couple quotations from this topic:

"I have a bad eyesight, so I am having troubles when calling to the healthcare center. I have to wait till the voice says that 'you did not press any buttons; do you want us to call you back?'" – R1

"Everything could be in a bigger font, because when I go for example to the lab, the queueing number is very high up in a small font. I have had to learn my own ways to do

things because I cannot see. If the queueing number would also be lower in the wall, I could go closer to look at it." – R1

"Sometimes when they give some instructions or appointment details in a paper because I cannot look them up online, the font is small, and it is hard to see it. It would be good if they could provide those with a bigger font also." – R4

When planning various services and devices, it is essential that these common physical issues would be taken into account. In this study with only eight participants, eyesight appeared to be the only physical issue arisen when discussing about difficulties. There are, however, almost certainly additional physical factors that should also be considered when planning these healthcare services.

4.2.2 Differences in feelings and experiences

The digitalization of the public healthcare system has prompted numerous thoughts and emotions among the participants. Managing digitalization appears to vary due to attitudes as well. The data that included emotional expressions was also color-coded. Later, the data with emotional expressions was color-coded further according to two groups: whether they expressed negative emotions or positive emotions. There were a few participants who seemed quite fine with the digitalization, despite the fact that the predominant sentiments and thoughts associated with digitalization were sadness, feeling left out, and frustration. There seemed to be two types of thinking among the participants: those who blamed digitalization for their exclusion and those who blamed themselves for not being more active and learning to use the internet. Obviously, the situation is not so unambiguous, but these appeared to be the two predominant perspectives. Firstly, there are some quotations from the more positive outlooks:

"I am not bored (even though I do not use the Internet), I am really healthy and a part of a long-living family, I have quite a good life when I don't think about all the difficulties." – R2

"I do not feel like I am excluded, I rather keep myself out from these things." – R7

Here are some of the more negative feelings caused by digitalization:

"I have felt left out ever since these came (digital services). I tried to learn these things when I retired but when I was at the course, I couldn't see the instructions from the board, so it was difficult and did not work out an then I became discouraged." – R1

"I feel like if my way of thinking would be different, it would be easier for me, but my attitude is a 'no'…" – R3

"I have a feeling that I was born in the wrong time, like it has really come to this, that I have started to think that I would not have wanted to be born in the wartime either, but this time is also very very difficult. There is a lot of education available for elderly, but I do not have enough strength even if they would come to my home to teach me." – R5

"It is frustrating that I do not manage everything on my own anymore. It feels like the digitalization takes away some of your independency." – R6

"Of course, it irritates that these have become somewhat mandatory (digital things). They should have waited that we, who are not educated with technology and computer related things, would have left this earth before everything turns digital." – R8

In conclusion, the majority of the participants experience exclusion, sadness, and frustration due to their situation as Internet non-users in an immensely digital world. However, there are a few participants whose feelings are not as negative, but who still suffer the same consequences, except with a more positive attitude.

4.2.3 Treatment and service at healthcare centers/hospitals

As previously stated, the majority of the participants healthcare-related issues arose when the participants had to perform tasks from home, such as scheduling appointments or seeking information. When asked about the effects of digitalization on their overall healthcare, they were all quite satisfied with the care they received at the healthcare centers or hospitals. However, there were a few comments about the fact that there is a very limited number of staff and possibly only one person at the reception to ask questions from. It was also stated that there are more interactions between people and machines than between people and people:

"There is only a machine at the reception when you walk in, and I do not know what to do with that." – R1

"The one person at the front desk cannot take care of everything on their own, I am very sad that there are only machines, the only one who you can call and there is a real person that answers is a physiotherapist." – R5

Overall, the participants had a positive impression of the treatment at the healthcare centers and hospitals. In addition, it was suggested that the treatment of chronic illnesses has also remained unchanged and there have been no issues with that despite the digitalization. Here are some of the more positive experiences:

"Digitalization has not had any effects when visiting the healthcare center, they all treat me very well there." – R4

"When I sometimes have to ask something written on a paper because I cannot look it up online, they do that happily and the service is always good." – R6

"They have served me very well, I went to a public health nurse, and they are really kind and friendly, and I have managed to take care of all things." – R7

"I haven't had any issues at the healthcare center, they have treated me very well." – R8

There are some difficulties associated with the changes in methods of work and increased amount of technology at the healthcare facilities, but it seems that the fact that the participants are not internet users does not appear to affect how they are treated, nor has digitalization had a significant impact on it either.

4.2.4 Overall management

When asked how the participants feel they are handling the digitalization of the public healthcare system, three participants responded that they are handling it quite well, while five participants responded that they are not managing it very well. The same theme persisted throughout the entire interviews, with a few individuals appearing to have fewer problems with the digitalization than the others. Obviously, there were a variety of issues that posed difficulties for some but not for others, and everyone had problems with at least one effect of digitalization. It became apparent, for instance, that that every participant required assistance with something and could not be entirely

independent due to digitalization. Whether or not that was a problem for them varied among the participants. Here are some answers from the interviews:

"I have managed quite well at least for now, although, I do not have to use those (healthcare) services that often." – R2

"I would say that as a school grade my managing is maximum 6, always not even that." – R3 (School grading referred is from 4 to 10)

"It has become quite difficult; it feels like so many things change constantly and a person at this age can't really keep up. Somehow, I am still managing, but quite poorly." – R4

"I'm managing quite poorly; my children and grandchildren support me with some things, but I try to survive without any devices as long as I can. It is bad that all services are shifting to the internet." – R5

If one were to rely solely on their responses to the question, it would appear that 62.5% of the participants feel like they are not managing the digitalization of the public healthcare system that well. So that it would be easier to discern which participants considered doing quite well with the digitalization and which did not, a table was created to represent their overall management:

Respondent	Indications of coping quite well	Indications of not coping well
R1 (86, Female)		x
R2 (82, Female)	x	
R3 (85, Female)		x
R4 (83, Female)		x
R5 (76, Female)		x
R6 (88, Male)		x
R7 (78, Female)	x	
R8 (87, Female)	x	

Table 5: Participants' overall management with the digitalization of the public healthcare system

Looking at the table, one can also conclude that age has no bearing on the management of the digitalization of the public healthcare system in this instance.

4.3 Internet non-use

The data covering the topic of the participants Internet non-use was color-coded into two themes: reasons for Internet non-use and past and future Internet use. This allowed for the collection of all the reasons that were mentioned of the participants non-use of Internet, as well as information about the participants past and potential future internet usage. The interview questions can be seen in section 3.2.1.1.

4.3.1 Reasons for Internet non-use

Multiple factors prevented the participants from using the Internet. Lack of interest in technology (mentioned by four participants), lack of desire to learn using it (mentioned by three participants) and feeling too old to learn using it (mentioned by two participants) were the three most common reasons for not using the internet between the participants. There were additional reasons cited, which are depicted in the table below.

All mentioned reasons	Number of mentions
Lack of interest in technology	4
Not having the desire to learn	3
Feeling too old to learn it	2
High connection-costs	1
Fear on accidentally revealing personal information	1
Fear of scammers	1
Lack of time	1
Bad eyesight	1
Fear of the internet overall	1
Not trusting themselves	1
Wanting to test out how people treat you as an internet non-user and how life is without internet	1
Difficulties with learning	1

Table 6: All mentioned reasons for Internet non-use

Here are a few interview excerpts regarding this topic to get a deeper insight of the participants' reasonings and feelings towards Internet non-use:

"I am not going to learn it anymore, what if it takes me all day to bustle with the computer, then my eyes start to hurt, and it will just make me angry. You do not need internet at this age anymore, my son usually helps me a little when he is visiting." – R2

"Nowadays it all about numbers, I would say cold numbers. I feel like it is very different to face a person than to face a machine. I am not interested about any machines, and I have never been that kind of a person. I have never been excited to learn about technology, maybe there is a certain timidity in me. Some people that use the internet and have gone to courses have told me that they must still ask a lot of help and that it feels too complicated." – R3

"Somehow, I am not comfortable with things related to technology, I do not trust my memory and those things are really hard for me. I am so old-fashioned, and I try to keep going as long as I can without Internet. I am afraid that I would do some kind of mistake, and when hearing these stories for example there was money stolen from one lady and those things scare me and I do not have the strength to delve into them at all." – R7

"I thought when I chose not to use Internet that it would end up costing a lot but now it feels like I could have benefited financially if I had just chosen to use it. I also thought that I will manage, and I wanted to try how I will be treated and how it will affect my life, because there are a lot of us anyway (Internet non-users) and I also thought that at the same time I want to see how it feels being without internet. Many feels like they are left out of any general knowledge, but luckily there are radio and television, even though they must be on all the time. We have this pensioners circle that has nearly 100 people, of which around half does not use the Internet." – R8

In addition, there are quite a few reasons that include a fear of something related to Internet use, which reflects the fact that the participants are digital immigrants, who may have difficulties understanding the Internet as a whole.

4.3.2 Previous Internet use and possible future Internet use

When asked about if the participants had ever used the Internet, all of them responded that they had never done so. The objectives behind the question were to possibly gain insight into the causes of quitting Internet use. In addition, participants were asked if they would ever consider using the internet and what factors could make this a possibility. All of them responded that they would never be willing to begin using the Internet. This was asked to gain more information about factors that could result an Internet non-user to start using the Internet, but unfortunately this information could not be gathered either.

There were, however, many interesting perspectives on this topic. A selection of the participants' justifications for their unwillingness to begin using the Internet in the future are provided below.

"There is nothing that would make me use it (Internet), phone and television are enough. I am not going to bother my mind at this age anymore because I have never been that clever anyway. I appreciate what I have made with my hands more." – R2

"There are no factors that could make me use the Internet anymore. I have the kind of attitude, that I will manage the time that I still have left in this life without Internet, even though I have difficulties at times. I prefer to focus on my hobbies and friends, and I will ask for help when I need it. I just hope that this is not going to get worse, so that I can still manage without the Internet." – R4

"I am planning on going on like this till the day I die, even though you should never say never. But if feels strange to me, and I have thought of my rebelliousness and why the society has turned into what it is today. I have to look into the mirror because why won't you go with what's modern? I feel like a phone is enough and the best for me. A person this age does not have so many things that require internet. Only are those medical things but I have gotten help for them every time." – R3

The participants' responses reveal a significant amount of their divergent perspectives, but they also share a number of common ideologies. They prefer on just having a phone because it allows them to make phone calls and send text messages, whereas they do not

see the value in having access to the internet. The age issue is also brought up again, using the familiar phrase “not at his age anymore.”

4.4 Summary of the results

As a result of the digitalization of the public healthcare system, there are unquestionably some complications. Appointment booking, finding and receiving information, and physical limitations were the most common problems encountered by the participants. There appeared to be two types of thinking among the participants, those who blamed digitalization for their exclusion, and those who blamed themselves for not being more active and acquiring internet skills. There were also a great number of people who opposed digitalization than those who were fine with it. The majority of the participants felt sadness, exclusion, and frustration due to the digitalization of the public healthcare services. In addition, it does not appear that the fact that the participants are not internet users has a significant impact on how they are treated at the healthcare facilities, nor has digitalization. There were, however, a few issues mentioned related to the changes in healthcare facilities due to digitalization: the registration machines at the reception, as well as the replacement of staff with machines. Regarding the overall management of the participants, it was determined that approximately 62.5% are not managing digitalization well.

The three most frequently cited reasons for Internet non-use were lack of interest in technology, lack of desire to learn how to use it, and feeling too old to learn how to use it. There was a total of twelve distinct reasons for Internet non-use mentioned by the eight participants. When asked about their past and future Internet use, every participant stated that they have never used the Internet and have no intentions to start using it. The results are more thoroughly discussed in the following chapter.

5 DISCUSSION

This chapter discusses the adequacy of the results in answering the study's research questions, as well as how the results compare to previous studies. The sub-questions of the research are discussed initially, followed by the main research question.

5.1 Answers to research questions

To evaluate the success of the research, we must determine whether all the research questions were answered. The sub-questions are addressed first, as they supplement the primary research question. Following their processing, the primary research question will be processed.

Sub-question 1. *How has the digitalization of the public healthcare system affected matters related to Internet non-users' healthcare?*

Appointment booking, finding and receiving information, and physical limitations are the areas where the digitalization of the public healthcare system has caused the most difficulties. Also mentioned was the replacement of humans with machines, which according to the participants feels awful, because there are significantly fewer human interactions today than there were before digitalization. These effects can be divided into two categories: problems associated when taking care of matters remotely, and issues at healthcare facilities.

Internet non-users appear to find it difficult to complete tasks from home. Appointment scheduling over the phone appears to be inefficient for them, and they prefer to visit their local healthcare centers. It is known, that even if you personally visit a healthcare center, you must still in some cases make an appointment via phone in some facilities. It would be advisable if all healthcare centers would maintain the option to schedule appointments on-site for those who struggle to do so over the phone. In addition, Internet non-users have difficulty finding the phone numbers of various healthcare providers because phone books are no longer available due to digitalization.

The conclusion is that digitalization does not impact the healthcare itself, but rather the issues surrounding it. All participants were satisfied with the manner in which they are

treated by healthcare center/hospital staff, and they have not observed any changes in the care of their diseases or other medical issues. There are still some digitalization-related problems at hospitals and healthcare facilities. Digitalization has resulted in having registration machines at the reception that can be difficult for Internet non-users to comprehend, as they typically avoid other technologies as well. Also altered by digitalization are the electronic queueing number boards used in many laboratories, which has resulted in some problems that are more thoroughly explained in the answers to sub-question 3. In addition, the reduction in staff has had a negative impact on the participants, as there are fewer people to ask questions from or speak with and more machines with which they are not comfortable with. Due to the cost savings afforded by digitalization, staff reductions occur simultaneously with its implementation. According to a study conducted by the Ministry of Finance in 2017, the potential national savings from swiftly implemented measures range between 7 and 23 million euros. Measures implemented slower have the potential to save between 440 and 680 million euros. Obviously, this applies to all public services and operations that are in the midst of digitalization, not just healthcare. (*Ministry of Finance*, 2017) Nonetheless, these cost-cutting measures inevitably result in the replacement of humans with machines, which may be understandable to younger generations but may be difficult for the older digital immigrants to comprehend.

According to a previous study by Turel et al., the findings of negative effects caused by digitalization at an individual level include technology addiction, inappropriate technology use, general and technology-related stress, insecurities, negative health outcomes, security and privacy concerns, and cyberbullying. (Turel et al., 2021) There is no mention of issues such as digital exclusion or negative effects on Internet non-users or on technologically incompetent individuals. On the basis of the findings of this study, it can be hypothesized that these problems should also be added to the list of negative effects of digitalization at an individual level.

Sub-question 2. *Are there differences in experiences between the non-users?*

There are differences in the participants' experiences. At some point in the interview, all participants complained about at least one digitalization-related issue, so there were none that would have completely different experiences as the others. There were, however, notable differences in the participants' responses to specific questions.

There were questions with answers that were completely opposed to one another. One participant might say, for instance, that they are coping quite well with digitalization, whereas other participant might say that they are very unhappy and struggle greatly with digitalization. There would also be those with numerous ideas for improving the public healthcare system, and those with no ideas for improvements. In addition, there were those who did not feel like they were missing out on anything due to their inability to use digital services, while others felt left out and that those who are able to use digital healthcare services have significantly more options and services than those who do not use the Internet.

The same phenomenon has occurred previously, for instance, in the study on internalized ageism, in which some participants indicated a reluctance to engage with anything technological, whereas one participant indicated that their smart phone was their friend. (Köttl et al., 2021) The attitudes of Internet non-users toward technology and Internet appear to vary considerably, and there are clear indications of stubbornness among some of the participants, which has presumably exacerbated their situation. However, it would be incorrect to ascribe the label "choice" to individuals who have negative attitudes toward the Internet and choose not to use it. Possessing negative attitudes toward computers and Internet is associated with computer and Internet anxiety. Anxiety and fear have a negative effect on Internet usage patterns, and they prevent minorities and older adults from using the Internet. (van Deursen & Helsper, 2015)

Overall, a few participants felt less impacted by digitalization than others, but it should be noted that one of them had not needed healthcare services in the past few years and therefore had fewer experiences than the others. It also needs to be taken into consideration, that the differences in experiences have a great deal to do with a person's attitude, nature, and way of thinking as well as possibly their location.

Sub-question 3. *What improvements could be done to match the needs of Internet non-users?*

There are multiple improvement suggestions for the healthcare sector. Because it is difficult for Internet non-users to search for information, it would be extremely helpful if municipalities and/or local healthcare centers and hospitals provided them with

booklets containing all pertinent phone numbers and contact information. It is not known, if this is a common practice in some municipalities, but at least it is not in all of them. It was also noted that if an important phone number/other information related to healthcare changes, a note from it should be displayed prominently at healthcare centers/hospitals, perhaps on the front door or/and at the reception. This could prevent some of the future difficulties for those who are not capable of searching information online. Additionally, it was suggested that printed instructions or appointment booking information could be provided in a larger font size. This may be unrelated to digitalization and its associated problems, but it is pertinent to mention. Also mentioned in relation to eyesight is that the laboratories electronic queueing number boards are typically mounted very high on the ceiling. There is a reason for them to be high up, so that everyone can see it, but a second one could be placed lower in the wall, allowing those with poor eyesight to get closer to the board to see it more clearly.

There was also discussion about how, for instance, the registration machines at the reception could have clearer instructions, so that even those unfamiliar with technology could use them. In addition, it was evident that the participants yearned for more human contact, someone to inquire about their well-being and converse with, as opposed to machines. However, it is not likely that improvements will be made in this direction, as the trend has been in the opposite direction due to digitalization. One participant mentioned that her regular blood test, which has always been administered every six months, was suddenly no longer available at the lab because the referral had been cancelled. As a non-Internet user, the participant does not have the option to check their MyKanta for an explanation of what occurred; therefore, it would be prudent to inform them of this. There could be a notation on the patients' information indicating that he or she does not use the Internet and should be notified by phone or text if something changes with their routine procedures etc.

Finally, few participants suggested that there should be an alternative option for people who are older, disabled, or otherwise have difficulty pressing buttons on the phone, such as a second number where a person would answer. Theoretically, this may not work because the secondary line would likely be misused if the primary line has lengthy wait times, and people who do not initially require the services from the secondary line would call it, making it unavailable for those who truly require it. According to previous

research, the population with the greatest need for public services, such as health-related services, is comprised of senior citizens. In contrast, senior citizens utilize digital versions of these services the least. To increase the adoption of digital services, greater emphasis must be placed on user-centeredness, co-creation of value and innovation in service delivery. (Holgersson & Söderström, 2019) It is crucial that those designing and planning various services, systems, and devices keep in mind that not everyone is familiar with technology or Internet. According to a few previous studies in Finland, the objective is to provide these essential services to be accessible to everyone, however, there is no information available to support these assertions, and it is evident that this strategy is not particularly effective at the moment and needs changes.

Sub-question 4. *What are the reasons resulting in Internet non-use?*

As seen in Table 6, there were twelve distinct reasons mentioned for Internet non-use. The most mentioned reason between the participants were *lack of interest in technology*, following with *not having the desire to learn it*, and *feeling too old to learn it*. One reason mentioned that fits in this group is also *difficulties with learning*. All of these are likely attributable to the fact that the participants are digital immigrants, with no formal education to technology, so they avoid it and do not feel comfortable with it. According to a previous study, negative effects of age stereotypes on mental and physical functions withdrawal from certain activities may cause older adults to believe they are "too old" to use the Internet. (Köttl et al., 2021) This statement accurately describes the results of this study too, as the phrase "not at this age anymore" was frequently heard during the interviews. Also, it is more difficult to learn new things as one ages, particularly Internet, which can be extremely difficult for older digital immigrants to comprehend. As seen in their background information in Table 4, one possible explanation for their lack of internet usage is that they were not required to use the Internet in their work life. That can result in not learning it in the future as well.

Other group of related reasons are *fear of accidentally revealing personal information, fear of scammers, fear of internet overall,* and *not trusting themselves.* These are all related to the fear of the unknown. Attitudes toward the Internet play a significant role in older adults' adoption of ICTs, particularly when they exhibit fear or unfamiliarity with ICTs. (van Deursen & Helsper, 2015) Elderly who do not understand how the Internet functions and what is safe and unsafe may find it extremely challenging to

manage their online assets. There are numerous con artists, and the majority of their victims are elderly people. Therefore, the fear of these things is quite justified. Also, it is understandable if someone is aware of their poor memory and does not trust themselves with Internet. They cannot have someone assist them every time they use it, so they choose not to use it.

There are three mentioned reasons left, that did not really fit into the groups above, which are *high connection costs, lack of time, bad eyesight*, and *wanting to test out how people treat you as an internet non-user and how life is without internet.* One participant stated that the high connection fees were one of the main reasons she did not begin using the Internet earlier in her life. However, she also mentioned that, given the passage of time, it would have been cheaper to begin using the Internet sooner, as she now must pay different service fees. When asked directly about the reasons for Internet non-use, lack of time was mentioned only once, but it was discussed with multiple participants during the interviews. They were concerned that if they began to learn how to use the Internet, they would no longer have the time for their hobbies and other responsibilities. One participant also mentioned that her Internet-using friends are constantly glued to their devices and do little else. That was contrary to her desires. Bad eyesight is an understandable physical limitation, resulting in difficulty viewing a screen or reading small text. It is also problematic that little can be done to help with it. In this study, only poor eyesight was mentioned as a physical issue, but a previous study found that back and neck pain, as well as hand tremors, are also common reasons for Internet non-use, resulting from inability to use different devices. (Yazdani-Darki et al., 2020) Finally, the wanting to test out how people treat you as an internet non-user and how life is without internet is an intriguing one. It must have been an interesting time when the Internet became more widespread and the future with it was unknown. Curiosity about how things will unfold without the Internet seems like a plausible reason for not using the Internet.

The main research question: *How are Internet non-users managing with the digitalization of the public healthcare system?*

The participants face numerous difficulties as a result of digitalization. At some point during the interviews, every participant exhibited signs of sadness, frustration, or exclusion. Even though some participants' attitudes are more optimistic than others, it

must be stated that digitalization seems to have a negative impact on all of them in some way. Obviously, their own expression of how they are coping must be taken into account. When asked about who they feel they are managing the changes that digitalization brings, three of the participants answered coping with them without any major issues, as five of the participants answered to coping quite poorly. Based on that and the findings of this study, it could be hypothesized that two-thirds are coping quite poorly with it, while one-third are coping quite well.

During the interviews, there was a noticeable difference in the attitudes of the participants towards digitalization, and a few participants seemed to have a generally more positive nature or attitude than the others. This may have affected also in their responses, as they did not perceive the same problems to be as significant than the other participants did.

Certain aspects of the participants' attitudes towards digitalization are unquestionably at play when it comes to managing the digitalization, but the majority of them face real problems that are difficult for them to comprehend, and they feel excluded from this society and fear for more changes in the future. All the participants stated that they require assistance with certain tasks and could not survive without help, as a result of the digitalization of the public healthcare system. The digitalization has unquestionably complicated matters pertaining to their healthcare, and during the interviews, not a single positive comment was made about digitalization. The conclusion would be that Internet non-users manage the digitalization of the public healthcare system with the help of their friends and family who are Internet users for the time being, but that the changes brought on by digitalization and the fact that the do not use the Internet are too much for them to handle on their own.

5.2 Results compared to previous research

This section compares the results of this study to those of previous studies discussed in the literature review. This is conducted to determine how well the results of the previous studies match the results of this current study, as well as to determine if any new information was obtained in this study.

5.2.1 Digitalization of the public healthcare system

Unfortunately, the literature on the negative aspects of digitalization is still in its infancy and has not been sufficiently researched, as evidenced by the absence of prior studies on the subject. The results within the theme of how digitalization has affected Internet non-users can be, however, compared to the literature review's potential negative aspects of digitalization, as well as the mentioned concerns noted in the study of the social and healthcare systems digitalization conducted by Hyyppönen & Ilmarinen.

The study mentioned previously, stated that in terms of self-suffiency, access to information, and access to services, the digital transformation of services has the potential to produce inequalities and exclude certain groups. It is also noted that future access to social and health information services requires the elimination of e-commerce barriers, in addition, services must be accessible to those who cannot conduct transactions electronically. It has also appeared in the study that the groups anticipated to gain the most from electronic access to information and services have been excluded from the digital revolution. (Hyppönen & Ilmarinen, 2014)

In response to these claims, it is evident from the results of this study that digitalization has led to inequality and exclusion among Internet non-users, and that their self-suffiency has suffered to the point where they are no longer completely independent and require assistance from the outside. The requirement that services must be accessible to those who cannot participate electronically has been partially met, but Internet non-users have unquestionably found it difficult to utilize some of these services, such as appointment booking. There are, however, services such as MyKanta, where a great amount of important medical information can be viewed, and activities such as prescription renewal can be made, that are unavailable to Internet non-users, causing feelings of exclusion and unfairness.

It is essential, according to Hyyppönen & Ilmarinen, to identify the distinct needs of various customer groups and then tailor services to meet those needs. (Hyppönen & Ilmarinen, 2014) With this study, the needs of the group of Internet non-users are identified, and services could be tailored more to meet those needs; after all, Internet non-users are a sizable population that utilizes healthcare services frequently due to their older age. Mentioned needs were e.g., booklets with important phone numbers,

more possibilities for human contact rather than machines, clear instructions for machines located at healthcare facilities, and an alternative appointment booking option for those, who struggle with the pre-recorded voice and pressing buttons during the phone call. The answers to sub-question 3 in part 5.1 provides more thorough explanation of all the improvement ideas that the participants had for the public healthcare system.

Overall, it is undeniable that this section of the study provided significant new information and insight into the relationship between the digitalization of the public healthcare system and Internet non-users, and it is reasonable to assume that the difficulties are not limited to the digitalization of the public healthcare system alone, but also to digitalization of other vital services.

5.2.2 Internet non-use among older adults

The non-use of the Internet is a subject that has been extensively researched previously. Physical limitations, such as vision problems, back and neck pain, and hand tremor were cited in the previous studies included in this study's literature review as explanations for Internet non-use. Also mentioned were educational constraints, such as unfamiliarity with language and terminology, low levels of electronic literacy, and a general lack of knowledge. Age and feeling too old to use the Internet were one of the most common reasons for non-use of the Internet, which leads to another topic, fear of making mistakes. Finally, the lack of time, high connection costs, and limited access to technology in the workplace were mentioned in the previous studies.

This study's findings regarding Internet usage correlate extremely well with those of previous studies. The result of this study also mentions physical limitations, such as poor eyesight, as well as learning difficulties, which corresponds to the educational constraints from the previous study. During the interviews, the phrase "feeling too old" was also mentioned frequently and was cited as a reason for Internet non-use. Also mentioned were the fear of making mistakes, lack of time, and high connection costs.

A few reasons were mentioned in this study that were not mentioned in the previous studies included in this research These reasons were: fear of scammers and internet overall, not trusting themselves with Internet, and wanting to test out how people treat you as an Internet non-user and how life is without the Internet. However, the non-use

of the Internet has been so extensively studied that it is unlikely that these findings would be novel; they are likely to be mentioned in some another studies.

It is argued that individuals whose careers involved the use of technology are much more likely to use the Internet as they age (Konig et al., 2018) If a person has never had access to or experience with technology or the Internet, it is less likely that he or she will adopt these practises. This statement is also consistent with the findings of this study, as none of the participants held positions that required significant technology or Internet access.

According to a study conducted by van Deursen and Helsper, only 13 percent of the 221 non-Internet users who participated in their study indicated an interest in using the Internet in the future. Moreover, only 7% of respondents who already has Internet access at home indicated that they might use it in the future. (van Deursen & Helsper, 2015) In accordance with the findings of this study, none of the eight participants would be willing to Internet usage in the future. As in the van Deursen and Helspers study, if there had been a significantly larger response rate in this study, a small number of participants may have considered beginning Internet usage, which would have correlated even more with the previous study.

6 CONCLUSION

This chapter summarizes the findings of this master's thesis and explains the key findings from the results, as well as offers suggestions for future research. Additionally, discussion about the limitations of the research is conducted.

6.1 Key findings

Due to the lack of prior research on this topic, the majority of the results are contained within the key findings. First, it was determined that the digitalization of the public healthcare system has a negative impact on issues related to the healthcare of Internet non-users.

It can be hypothesized that approximately two-thirds of Internet non-users may struggle with the digitalization of the healthcare system, according to one of the most significant findings. It was determined that the digitalization of the public healthcare system has resulted in Internet non-users losing their independence in certain areas, requiring them to have assistance, for instance, when searching for information. The overall conclusion is that the majority of the Internet non-users are not adapting well to the digitalization of the public healthcare system, and digitalization has had many negative effects on their healthcare-related matters, such as with scheduling appointments, finding and receiving information, and a lack of human contact.

There were also numerous suggestions for improving the services of the public healthcare system to better meet the needs of individuals who do not use the Internet. One of the major issues was the inability to search for information; therefore, a booklet containing important phone numbers and other contact information could be provided to alleviate the issue and restore the individual's independence with finding information. It was also determined that it would be beneficial if there were more human contacts at healthcare facilities, such as more people to converse with and ask how they are doing. In addition, in order to reduce the issues with appointment booking it was determined that additional phone line could be created for those who have difficulty booking appointments with the pre-recorded voice.

In addition, it was determined that the reasons for Internet non-use and other factors related to it, such as indicators of future Internet use, are consistent with previous studies, and that there are no significant differences in this regard. There were twelve distinct reasons given for the Internet non-use, and it was determined that none of the participants would be willing to begin Internet use in the future

In conclusion, a quote from the interviews is included that aptly reflects the perspective of an elderly Internet non-user and, with any luck, helps others appreciate the challenges faced by these Internet non-users.

"They should have waited that we, who are not educated with technology and computer related matters, would have left this earth before everything turns digital." – R8

6.2 Critical overview and future research

Due to the qualitative nature of this study and the fact that there were only eight participants, the findings cannot be considered facts, but rather hypotheses. In addition, the study included only one male and seven females, resulting in an uneven distribution of genders. There were ten interview questions, so the interviews would not be too lengthy, but more questions could have yielded more information. Finally, it should be noted that the data collection occurred during the Covid-19 pandemic, which may have increased participants' feelings of exclusion and altered their recent healthcare experiences. Considering that there were only eight participants, and this was a qualitative study, a more comprehensive examination of the same topic may be necessary, because there is much more to learn about this topic.

During some of the interviews, it became apparent that the participants utilized other information technologies, such as television. It would possibly be useful to research more of why people choose to learn and use certain information technologies, but not others, such as Internet in this case.

It also appeared that people's attitudes are influential in their decision to not use the Internet. Further research could be conducted to determine why people have a certain attitude towards the Internet and how that affects their usage. Additionally, in the interviews the participants were asked about their previous Internet use in an attempt to

gain a deeper understanding of the factors that lead people to stop using the Internet; however, none of the participants had used the Internet previously so this could not be investigated further in this study. Therefore, the reason for discontinuing Internet use could also be investigated in the future.

Finally, the loneliness among elderly has already been studied quite inclusively, whereas the loneliness and negative emotions caused by digitalization is a more recent phenomenon that should be studied further in the future so it could possibly be prevented more effectively.

REFERENCES

Apteekkariliitto, Lääkäriliitto ja Lääketietokeskus. (2017). Tuhat Suomalaista-tutkimus.

Aspers, P., Corte, U., & No, U. C. (2019). What is Qualitative in Qualitative Research. *https://doi.org/10.1007/s11133-019-9413-7*

Brennen, S., & Breiss, D. (2014). Digitalization and Digitization – Culture Digitally. *https://culturedigitally.org/2014/09/digitalization-and-digitization/*

Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *https://doi.org/10.1186/s42466-020-00059-z*

Coffey, A., & Atkinson, P. (1996). Making sense of qualitative data.

Cut, M. (2017). Digital natives and digital immigrants — how are they different. Digital Reflections. https://medium.com/digital-reflections/digital-natives-and-digital-immigrants-how-are-they-different-e849b0a8a1d3

Daugherty, P. (2019). The Post Digital Era is Coming. Accenture. https://www.accenture.com/us-en/blogs/technology-innovation/daugherty-digital-transformation

Denzin, N. K., & Lincoln, Y. S. (2005). The SAGE Handbook of Qualitative Research (3rd ed.).

EU-healthcare.fi. (n.d.). Healthcare system in Finland. Retrieved April 28, 2022, from https://www.eu-healthcare.fi/healthcare-in-finland/healthcare-system-in-finland/

Fossey, E., Harvey, C., Mcdermott, F., & Davidson, L. (2002). Understanding and evaluating qualitative research.

FSTeH. (2020). Finland at the frontline of healthcare digitalisation - STeHS. https://www.telemedicine.fi/en/news/finland-at-the-frontline-of-healthcare-digitalisation

Hoffmann, C. P., Lutz, C., & Meckel, M. (2014). Digital Natives or Digital Immigrants? The Impact of User Characteristics on Online Trust. Journal of Management Information Systems, 31(3), 138–171. https://doi.org/10.1080/07421222.2014.995538

Holgersson, J., & Söderström, E. (2019). Bridging the gap-exploring elderly citizens' perceptions of digital exclusion. https://aisel.aisnet.org/ecis2019_rp/28

Hyppönen, H., & Ilmarinen, K. (2014). Sosiaali- ja terveydenhuollon digitalisaatio. www.palveluvaaka.fi

Ikääntyneet Helsingissä. (2020). Sähköisten palveluiden ja internetin käyttö. Retrieved January 24, 2022, from https://ikaantyneethelsingissa.fi/internetin_kaytto

Jackson, R. L. I., Drummond, D. K., & Camara, S. (2007). What is Qualitative Research?

Juuti, A. & Puusa, A. (2020) Laadullisen tutkimuksen näkökulmat ja menetelmät

Kanta.fi. (2021). What are the Kanta Services? Retrieved April 28, 2022, from https://www.kanta.fi/en/what-are-kanta-services

Kaplan, A. (1964). The conduct of inquiry.

Kiger, M. E., & Varpio, L. (2020). Medical Teacher Thematic analysis of qualitative data: AMEE Guide No. 131. https://doi.org/10.1080/0142159X.2020.1755030

König, R., & Seifert, A. (2020). From Online to Offline and Vice Versa: Change in Internet Use in Later Life Across Europe. Frontiers in Sociology, 5. https://doi.org/10.3389/fsoc.2020.00004

König, R., Seifert, A., & Doh, M. (2018). Internet use among older Europeans: an analysis based on SHARE data. Universal Access in the Information Society, 17(3), 621–633. https://doi.org/10.1007/s10209-018-0609-5

Köttl, H., Gallistl, V., Rohner, R., & Ayalon, L. (2021). "But at the age of 85? Forget it!": Internalized ageism, a barrier to technology use. Journal of Aging Studies, 59, 100971. https://doi.org/10.1016/J.JAGING.2021.100971

Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital Transformation: An Overview of the Current State of the Art of Research. SAGE Open, 11(3). https://doi.org/10.1177/21582440211047576

Lester, J. N., Cho, Y., & Lochmiller, C. R. (2020). Learning to Do Qualitative Data Analysis: A Starting Point. Human Resource Development Review, 1, 94–106. https://doi.org/10.1177/1534484320903890

Lipsmeier, A., Kühn, A., Joppen, R., & Dumitrescu, R. (2020). Process for the development of a digital strategy. Procedia CIRP, 88, 173–178. https://doi.org/10.1016/J.PROCIR.2020.05.031

Ministry of Finance. (2017). https://vm.fi/-/selvitys-digitalisaatio-tarjoaa-kunnille-merkittavan-saastopotentiaalin

Parviainen, P., Tihinen, M., Kääriäinen, J., & Teppola, S. (2017). Tackling the digitalization challenge: how to benefit from digitalization in practice. www.sciencesphere.org/ijispm

Prensky, M. (2001). Digital Natives, Digital Immigrants. 9(5).

Robledo, P. (2017). PROCESS DIGITALIZATION IN DIGITAL TRANSFORMATION. https://albatian.com/en/blog-ingles/process-digitalization-in-digital-transformation/

Sauce, B., & Matzel, L. D. (2017). Inductive Reasoning. In Encyclopedia of Animal Cognition and Behavior (pp. 1–8). Springer International Publishing. https://doi.org/10.1007/978-3-319-47829-6_1045-1

Soiferman, L. K. (2010). Compare and Contrast Inductive and Deductive Research Approaches.

Sosiaali- ja terveysministeriö. (n.d.). Digitalisaatio. Retrieved April 28, 2022, from https://stm.fi/digitalisaatio

Sote-Uudistus. (n.d.). Sosiaali- ja terveydenhuollon uudistus. Retrieved April 28, 2022, from https://soteuudistus.fi/etusivu?p_p_id=fi_yja_language_version_tool_web_portlet_LanguageVersionToolMissingNotificationPortlet&_fi_yja_language_version_tool_web_portlet_LanguageVersionToolMissingNotificationPortlet_missingLanguageVersion=1

United Nations. (2020). The Impact of Digital Technologies https://www.un.org/en/un75/impact-digital-technologies

The FullStory Education Team. (2011). Qualitative vs. Quantitative Data: What's the Difference? And Why They're So Valuable. https://www.fullstory.com/blog/qualitative-vs-quantitative-data/

Trittin-Ulbrich, H., Scherer, A. G., Munro, I., & Whelan, G. (2021). Exploring the dark and unexpected sides of digitalization: Toward a critical agenda. 28(1), 8–25. https://doi.org/10.1177/1350508420968184

Turel, O., Qahri-Saremi, H., & Vaghefi, I. (2021). Special Issue: Dark Sides of Digitalization. International Journal of Electronic Commerce, 25(2), 127–135. https://doi.org/10.1080/10864415.2021.1887694

Tuomi, J & Sarajärvi, A. (2018). Laadullinen tutkimus ja sisällönanalyysi

Valtioneuvoston selvitys- ja tutkimustoiminta. (2022). Retrieved April 28, 2022, from https://tietokayttoon.fi/etusivu

van Deursen, A. J. A. M., & Helsper, E. J. (2015). A nuanced understanding of Internet use and non-use among the elderly. European Journal of Communication, 30(2), 171–187. https://doi.org/10.1177/0267323115578059

van Dijk, J. A. G. M. (2006). Digital divide research, achievements, and shortcomings. Poetics, 34(4–5), 221–235. https://doi.org/10.1016/j.poetic.2006.05.004

Wang, Q., Myers, M., & Sundaram, D. (2013). Digital Natives and Digital Immigrants - Towards a Model of Digital Fluency.

Yazdani-Darki, M., Rahemi, Z., Adib-Hajbaghery, M., & Sadat Izadi-Avanji, F. (2020). Older Adults' Barriers to Use Technology in Daily Life: A Qualitative Study. https://doi.org/10.4103/nms.nms_91_19

7 APPENDICES

Appendix 1: Interview questions in Finnish and their translations in the text

In Finnish:

Taustakysymykset

Nimi:

Ikä:

Sukupuoli:

Asuinpaikkakunta:

Korkein koulutus:

Millaisissa työtehtävissä olit ennen eläkkeelle jääntiä?

Minä vuonna olet jäänyt eläkkeelle?

Avoimet kysymykset / Julkisten terveydenhuoltopalveluiden digitalisoituminen

Mitä ajatuksia/tunteita julkisten terveydenhuoltopalveluiden digitalisoituminen teissä herättää?

Miten koette pärjäävänne sen kanssa, että erilaiset terveydenhuoltopalvelut muuttuvat/uudistuvat jatkuvasti digitalisaation myötä?

Onko julkisten terveydenhuoltopalveluiden digitalisoitumisella ollut vaikutuksia terveydenhoitoonne liittyvien asioiden hoitamisessa, ja jos on niin millaisia? (esimerkiksi aikojen varaaminen yms.)

Onko julkisten terveydenhuoltopalveluiden digitalisoitumisella ollut vaikutuksia yleisesti teidän terveydenhoitoonne, ja jos on niin millaisia? (esimerkiksi sairauden hoito, ohjeiden saanti, kohtelu terveysasemalla/poliklinikalla yms.)

Mitä ajatuksia/tunteita teissä herättää se, ettette voi itse käyttää digitaalisia terveydenhuoltopalveluita? (esimerkiksi digitaalisia ajanvarauspalveluita ja Omakantaa)

Miten julkisia terveydenhuoltopalveluita voitaisiin kehittää vastaamaan paremmin internetin ei-käyttäjien tarpeita?

Avoimet kysymykset / Internetin käyttö

Luettele syyt, minkä takia ette käytä internettiä?

Jos olette aiemmin käyttäneet internettiä, mitkä olivat syyt käytön lopettamiseen?

Mitä sellaisia tekijöitä olisi, joiden avulla voisitte alkaa käyttämään internettiä?

Mitä ajatuksia/tunteita internetin mahdollinen käyttö teissä herättää?

Translation:

Background questions

Name:

Age:

Gender:

Place of residence:

Highest education:

Job before retirement:

Year of retirement:

Open questions / Digitalization of the public healthcare system

What thoughts/feelings does the digitalization of public healthcare services evoke in you?

How do you manage with the fact that the healthcare services change/reform constantly due to the digitalization?

Has the digitalization of public healthcare services had any effects in taking care of things related to your healthcare, and if, what? (For example, booking appointments etc.)

Has the digitalization of public healthcare services had any overall effects in your healthcare, and if, what? (For example, treatment of a disease, receiving instructions, treatment in medical centers/hospitals etc.)

What thoughts/feelings does the fact that you are unable to use digital healthcare services evoke in you? (For example, digital appointment booking systems or MyKanta)

How could the public healthcare services be improved to match better the needs of an Internet non-user?

Open questions / Internet non-use

List all the reasons why you do not use the Internet?

If you have used the Internet previously, what were the reasons for quitting?

What certain factors could result with you starting to use the internet?

What thoughts/feelings does a potential use of Internet evoke in you?

Appendix 2: Quotations from the interviews and their translations in the text

Translations for the part of managing the digitalization of the public healthcare system

- In Finnish: ”Puhelimessa ei hoidu asiat oikein hyvin, kun niihin on kauheat jonot. Viime viikolla soitin itselleni aikaa terveystalolle, sanottiin että paina sitä ja tätä, sanottiin että olet toisella sijalla ja odota kunnes vastataan, tämä kesti 45min, aina vaan olin kakkossijalla, sitten laitoin puhelimen kiinni, nousin bussiin ja menin paikan päälle. Sanoisin että onneksi vielä jalat pelaavat ja pystyn hoitamaan omat asiani, mutta aika usein joudun lähtemään paikan päälle. Joskus odotan tunnin, joskus neljä tuntia jotain vastausta. 6 korkein arvosana. Siinä pahimmat vaikeudet, sitten siellä sanotaan, että huomaathan että voit tämänkin tehdä verkossa…” – R3
- Translation: “There is so massive waiting times when calling with the phone that it doesn’t really work well. Last week, I tried to book myself an appointment in the healthcare center, the pre-recorded voice said that press this and press that and your next in line, wait till someone answers, this took 45 minutes, and I was next in line this whole time, then I ended the call and hopped into a bus and went there myself. I would say that it is a fortune that my legs still work, and I can take care of my own matters, because quite frequently I must make my way to the spot. (When calling) sometimes I wait for an hour, sometimes four to get an answer. There is the biggest problems, then they say that ‘notice that you can also do this online’…” – R3

- In Finnish: ”Siellä vastaa automaatti ja jäädään jonoon, kun ennen vastasi ihminen. Sinne voi jättää viestin, mutta keneltäkään ihmiseltä ei voi kysyä, että mikähän mulla on että joskus miettii jos menee turhaan yms.” – R5
- Translation: “The pre-recorded voice answers and you can stay in line, when before it was a real human that answered. You can also leave a voicemail, but you cannot ask from a real person that what could be wrong with me, because sometimes I wonder if I book an appointment for nothing etc.” – R5

- In Finnish: “Laboratoriostakin vastaa ihminen vaan parin tunnin ajan, ja ennen sai milloin vain soittaa, palveluita on supistettu tosi paljon ja ennen sai mennä ilman ajanvarausta ja nyt ei voi mennä.” – R5

- Translation: “When calling to the laboratory, there is someone answering for only couple of hours a day, when previously you could call anytime. Services has been reduced very much and before you could go (to the lab) without an appointment but now you can not anymore.” – R5

- In Finnish: ”Kun tilaa aikoja ni ei meinaa päästä sinne, että sais puhelinyhteyttä, ku se kestää aika lailla, voihan olla että en osaa käyttää kaikkia vimpaimia sillee mutta se on hidastunu ja vaikeutunut mutta sitten kun yrittää ja yrittää ni kyl ne on aina hoitunu. Paina sitä ja paina tätä et kyl sen kanssa vielä pärjää mutta on se hidastunut tai tullut monimutkaisemmaksi.” -R7
- Translation: “When booking appointments, it is hard to get a connection with a phone because it takes so long. It may be that I do not know how to use these things correctly, but it is more slow and quite hard but when you try and try, I have managed to make it. Press this and press that, you can manage with it at the moment, but it is slower and more complicated.” -R7

- In Finnish: “Tosi hankalaa on välillä yrittää ettiä jotain tietoa esimerkiksi jonkun tietyn poliklinikan tai tämmösen erikoisemman paikan puhelinnumeroita. Niihin yleensä joutuu pyytämään apua.” – R4
- Translation: “It is very difficult to try and find some information like a certain polyclinics or some other more specific places phone number. With this I must usually ask help.”

- In Finnish: “Jos täytyy hakea jotain tietoa niin siihen täytyy kyllä vaimolta aina kysyä apua, että se on semmonen missä mä en enää yksin pärjää kun ei oo tuota internettiä. Jos vaimoa ei ois, nii sitten en tiiä mistä sitä apua lähtis hakemaan, varmaan lapsille täytyis soittaa. Välillä jotkut numerotkin muuttuu, kun joka paikkaan täytyy kuitenkin soittaa kun varaa esimerkiks aikoja niin mistä minä sitte sen oisin saanu tietää että joku numero on muuttunu. Ois kiva kun sellasesta ilmotettais selkeesti terveyskeskuksessa.” R6
- Translation: “If I have to search for some information, I have to ask help from my wife, that one thing that I cannot manage myself anymore because I don’t have Internet. If I did not have my wife, I am not sure where I would get the help, maybe I would call my children. Sometimes the phone numbers changes

and because you must anyway call when booking appointments, where would I have gotten the information that some number had changed. It would be nice if they would inform that more obviously in the healthcare center." – R6

- In Finnish: "Nyt kun ei ole puhelinluetteloita ja muuttuu aika usein se että mihin pitää soittaa, niin pitäis olla joku semmonen jaettu kunnassa jossa näkyis kaikki kunnan tärkeimmät palvelut ja sairaaloiden ja poliklinikoiden puhelinnumerot kun sitä puhelinluetteloa ei enää tule ja se on hankalaa kun pitää jostain aina kysyä että mihin pitää soittaa ja sitten kun yritän soittaa niin se numero ei ole käytössä. Ainoa on se että ei tiedä mistä hakea sitä apua." - R8
- Translation: "Now that there is not phone books anymore and phone numbers change quite frequently, there should be a booklet of important services and hospitals and polyclinics phone numbers, because when there is no phone books anymore it is quite difficult to always ask somewhere that where do I call and when I call, the number is out of use. I do not know from where to get the help." – R8

- In Finnish: "Minä olen huononäköinen niin minulla on vaikeaa, kun puhelimella soitan terveyskeskukseen ja odotan niin kauan, että sieltä sanotaan, että et painanut mitään numeroa ja haluatko että soitetaan takaisin." – R1
- Translation: "I have a bad eye sight so I am having troubles when calling to the healthcare center. I have to wait till the voice say that you did not press any buttons, do you want us to call you back?" – R1

- In Finnish: "Kaikki voisi olla vähän isommalla, kun menee esim. labraan niin se numero on siellä korkealla pienellä. On täytynyt oppia omat tavat koska ei näe. Jos se numero olisi seinällä niin vois mennä lähemmäs katsomaan." - R1
- Translation: "Everything could be in a bigger font, because when I go for example to the lab, the queueing number is very high up in a small font. I have had to learn my own ways to do things because I cannot see. If the queueing number would also be lower in the wall, I could go closer to look at it." – R1

- In Finnish: “Välillä kun antavat jotain ohjeita tai ajanvaraustiedot jollekin lapulle, kun ei voi tietenkään netistä niitä katsoa, niin fontti on tosi pientä eikä sitä meinaa nähdä. Olisi ehkä hyvä, että sieltä voisi saada myös isommalla fontilla niitä lappuja.” – R4
- Translation: “Sometimes when they give some instructions or appointment details in a paper, because I can’t look them up online, the font is really small, and it is hard to see it. It would be good if they could provide those with a bigger font also.” – R4

- In Finnish: ”Ei mulla käy aika pitkäksi (vaikka en käytäkään internettiä), tosi terve olen ja pitkäikäistä sukua, ihan hyvä elämä kun ei kaikkia hankaluuksia ala miettimää.” – R2
- Translation: “I am not bored (even though I do not use the Internet), I am really healthy and a part of a long-living family, I have quite a good life when I don’t think about all the difficulties.” – R2

- In Finnish: “En koe, että jään paitsi mistään, oon mieluummin ulkopuolella tämmöisistä asioista.” – R7
- Translation: “I do not feel like I am excluded, I rather keep myself out from these things.” – R7

- In Finnish: ”Kyllä mä silleen ajattelen et, jos mun ajatusmaailma ois toinen ni se ois mulle helpompaa, mutta kun mun asenne on se että ’ei’– R3
- Translation: “I feel like if my way of thinking would be different, it would be easier for me, but my attitude is a no.” – R3

- In Finnish: ”Tuntuu ulkopuoliselta ihan siitä asti, kun nämä tuli (digitaaliset palvelut). mähän yritin koittaa opetella näitä, kun jäin eläkkeelle mutkun ei näe esim kursseilla sieltä taululta ohjeita niin se on vaikeeta eikä siitä tullut mitään ja sitten mä lannistuin.” – R1
- Translation: “I have felt left out ever since these came (digital services). I tried to learn these things when I retired but when I was at the course, I couldn’t see the instructions from the board so it was difficult and did not work out an then I became discouraged.” – R1

- In Finnish: ”On sellainen olo, että olen syntynyt vika-aikaan. Tämä on tullut siihen niin paljon että oon alkanut miettimään, että en ois halunnut sota-aikaakaan elää mutta kyllä tämä on hyvin hyvin hankalaa ja on paljon kyllä opetusta eläkeläisille saatavilla mutta minä en jaksa, vaikka tultais kotiin neuvomaan.” – R5
- Translation: “I have a feeling that I was born at the wrong time. It has come to this, that I have started to think that I would not have wanted to be born in the wartime either, but this time is also very very difficult. There is a lot of education available for elderly, but I do not have enough strength even if they would come to my home to teach me.” – R5

- In Finnish: ”Onhan se turhauttavaa, että ei pärjää yksin enää kaikkien asioiden kanssa. Tuntuu, että toi digitalisaatio vie sitä itsenäisyyttä pois.” – R6
- Translation: “It is frustrating that I do not manage everything on my own anymore. It feels like the digitalization takes away some of your independency.” – R6

- In Finnish: “Kyllä se tietysti harmittaa, että kun on melkein pakolliseksi tullut nämä (digitaaliset jutut). Olisi pitänyt odottaa, että me, jotka emme ole saaneet koulutusta näihin tietokonejuttuihin, et oltaisiin päästy pois täältä maailmasta ennen kuin kaikki muuttuu digitaaliseksi.” – R8
- Translation: “Of course, it irritates that these have become somewhat mandatory (digital things). They should have waited that we, who are not educated with computer related things, would have left this earth before everything turns digital.” – R8

- In Finnish: ”Vastaanotossakin on vaan kone vastassa ja ei tiedä miten siinä toimitaan.” – R1
- Translation: “There is only a machine at the reception when you walk in and I do not know how to even function with that.” – R1

- In Finnish: ”Se yks ihminen siellä aulassa ei pysty kaikkea hoitamaan, olen hyvin surullinen, että siellä on vain koneet, ainut on fysioterapeutti kelle voi soittaa ja siellä vastaa ihminen.” – R5
- Translation: “The one person at the front desk cannot take care of everything on their own, I am very sad that there are only machines, the only one who you call and there is a real person that answers is a physiotherapist.”

- In Finnish: “Ei sillä digitalisaatiolla oo ollu vaikutuksia terveysasemalla vieraillessa kyllä, että ne kaikki kohtelee kyllä hyvin siellä.” – R4
- Translation: “Digitalization has not had any effects when visiting the healthcare center, they all treat me very well there.” – R4

- In Finnish: ”Vaikka joutuu pyytämään välillä esimerkiksi jotain ylös paperille, kun ei pysty kattomaan netistä niin semmoisetkin iloisesti annetaan ja palvellaan kyllä tosi hyvin.” – R6
- Translation: “When I sometimes have to ask something written on a paper because I cannot look it up online, they do that happily and the service is very good.” – R6

- In Finnish: ”Minusta on palveltu oikein hyvin, kävin terveydenhoitajalla niin ne on tosi ystävällisiä ja tuttavallisia ja saanut hoidettua kaikki.” – R7
- Translation: “They have served me very well, I wen to a public health nurse and they are really kind and friendly, and I have managed to take care of all things.” – R7

- In Finnish: ”Ei ole ollut mitään ongelmia terveysasemalla, kyllä on erinomaisen hyvin palveltu.” – R8
- Translation: “I haven’t had any issues at the healthcare center, they have treated me very well.” – R8

- In Finnish: “Kyllä minä ainaki tähän asti oon pärjänny ihan hyvin, tosin aika vähän joudun noita palveluita ylipäätään käyttämään.” – R2
- Translation: “I have managed quite well at least for now, although, I do not have to use those (healthcare) services that often.” – R2

- In Finnish: “Sanoisin että kouluarvosanalla pärjäämiseni on maksimissaan 6, aina ei sitäkään.” – R3
- Translation: “I would say that as a school grade my managing is maximum 6, always not even that.” – R3 (School grading in Finland is from 4 to 10)

- In Finnish: “On se tullut aika hankalaksi, tuntuu että niin moni asia muuttuu koko ajan eikä tän ikäinen oikeen pysy perässä enää. Jotenkuten vielä pärjää, mut aika huonosti.” – R4
- Translation: “It has become quite difficult; it feels like so many things change constantly and a person this aged can’t really keep up. Somehow, I am still managing, but quite poorly.” – R4

- In Finnish: ”Aika huonosti pärjään, lapset ja lapsenlapset tukee jossain, mutta yritän mahdollisimman pitkään pärjätä ilman laitteita. Huono se on kun kaikki palvelut siirtyy nettiin.” – R5
- Translation: “I’m managing quite poorly; my children and grandchildren support me with some things, but I try to survive without any devices as long as I can. It is bad that all services are shifting to the internet.” – R5

Translations for the part of Internet non-use

- In Finnish: ”En enää rupea opettelemaan, mitä jos sitten kaiket päivät tursoon sen koneen kanssa nii menee silmät ja alkaa suututtamaan. Ei tällä iällä tarvitse enää internettiä, poika aina vähä auttaa sitten kun se on käymässä.” – R2
- Translation: “I am not going to learn it anymore, what if it takes me all day to bustle with the computer, then my eyes start to hurt and It will just make me angry. You do not need internet at this age anymore, my son usually helps me a little when he is visiting.” – R2

- In Finnish: ”Nykyaika on sitä numeroa ja numeroa, sanoisin että kylmää numeroa. Minusta on ihan erilaista kohdata ihminen, kun kohdata kone. Ei kiehdo minkäänlaiset koneet enkä ole koskaan ollut mikään koneihminen. En oo ollut ikinä innokas oppimaan tekniikkaa, ehkä siinä on semmoinen arkuus.

Jotkut ketkä käyttää ja on käynyt kursseja, on kertonut, että silti täytyy paljon pyytämää apua ja tuntuu liian monimutkaiselta.” – R3

- Translation: “Nowadays it all about numbers, I would say cold numbers. I feel like it is very different to face a person than to face a machine. I am not interested about any machines, and I have never been that kind of person. I have never been excited to learn about technology, maybe there is a certain timidity in me. Some people that use the internet and have gone to courses have told me that they must still ask a lot of help and that it feels too complicated.” – R3

- In Finnish: ”Jotenkin vierastan kaikkea teknologiaan liittyvää, en luota muistiini ja ne on mulle tosi vaikeita. Mä oon niin vanhanaikainen ja yritän mennä niin kauan, ku pystyy ni tällee ilman nettiä. Pelkään että teen jonkun virheen tai kun kuuntelee näitä että esimerkiksi yhdeltä rouvalta oli viety rahaakin ja ne pelottaa mua enkä jaksa siihen paneutua ollenkaan.” – R7
- Translation: “Somehow, I am not comfortable with things related to technology, I do not trust my memory and those things are really hard for me. I am so old-fashioned, and I try to keep going as long as I can without Internet. I am afraid that I would do some kind of mistake, and when hearing these stories for example there was money stolen from one lady and those things scare me and I do not have the strength to delve into them at all.” – R7

- In Finnish: ”Minä luulin silloin kun jätin sen netin käyttämättä, että se tulee kalliimmaksikin mutta kyllä se nyt tuntuu että siinä ois rahallisestikin voittanut ku olis lähtenyt siihen nettiin mukaan. Minä ajattelin, että tulen toimeen ja halusin oikein kokeilla että miten palvellaan ja miten se vaikuttaa siihen elämiseen, meitä on kuitenkin paljon ja ajattelin että samalla siinä tutkin vähän itsessäni että minkalaista on olla ilman nettiä ja hyvin moni tuntee että jää kaikesta yleistiedosta paitsi, onneksi on televisio ja radio, mutta niitä pitää pitää aina auki. meillä on sellainen eläkeläisten piiri jossa pyörii lähemmäs 100 ihmistä joista yli puolet varmaan ei käytä nettiä.
- Translation: “I thought when I choose not to use Internet that it would end up costing a lot but now it feels like I could have benefit financially if I had just chosen to use it. I also thought that I will manage, and I wanted to try how I will be treated and how it will affect my life, because there are anyway a lot of us

(internet non-users) and I also thought that at the same time I want to see how it feels being without internet. Many feels like they are left out of any general knowledge, but luckily there are radio and television, even though they have to be on all the time. We have this pensioners circle that has nearly 100 people, of which around half does not use the Internet." – R8

- In Finnish: "Ei saisi käyttämään millään, puhelin ja telkkari riittää. En tällä iällä enää ala mieltäni vaivaamaan, kun ei ole ollut mikään tietoniekka milloinkaan, arvostaa enemmän sitä mitä on käsillään tehnyt." – R2
- Translation: "There is nothing that would make me use it (internet), phone and television are enough. I am not going to bother my mind at this age anymore because I've never been that clever anyway. I appreciate what I have done with my hands more." – R2

- In Finnish: "Ei ole kyllä sellaisia tekijöitä millä mut saisi internettiä vielä käyttämään. On vähän sellanen asenne, että kyllä mä tämän elämän mitä nyt tässä vielä on jäljellä, niin pärjään ilman sitä vaikka vaikeuksia onkin välillä. Keskityn mieluummin harrastuksiin ja kavereihin, ja pyydän sitten aina apua kun tarttee. Toivotaan vaan että nämä nyt ei mee tästä huonompaan suuntaan, että vielä pärjäsi ilman sitä nettiä." – R4
- Translation: "There are no factors that could make me use the internet anymore. I have the kind of attitude, that I will manage the time that I still have left in this life without Internet, even though I have difficulties at times. I prefer to focus on my hobbies and friends, and I will ask for help when I need it. I just hope that this is not going to get worse, so I can still manage without the Internet." – R4

- In Finnish: "meinaan että näillä mennään hautaan, vaikka ei koskaan pitäis sanoa ei koskaan. Mutta kyllä se tuntuu minulle vieraalta ja monta kertaa olen ajatellut tätä omaa kapinointia ja että miks tää on menny tämmöseks tää yhteiskunta. Omaa peilikuvaahan siinä pitää katsoa, että miksi et mene mukaan siihen mikä on nykyaikaista? Musta tuntuu, että puhelin on mulle paras ja riittävä. Tän ikäisellä ihmisellä ei niin kauheesti oo niitä touhuja mihin sitä internettiä tarvis. Ainut ovat nuo lääkäritouhut mutta niihinkin on tullut aina apua." – R3

- Translation: “I am planning on going on like this till the day I die, even though you should never say never. But if feels strange to me, and I have thought of my rebelliousness and why the society has turned into what it is today. I have to look into the mirror because why won’t you go with what’s modern? I feel like a phone is enough and the best for me. A person this age does not have so many things that require internet. Only are those medical things but I have gotten help for them every time.” – R3