“Artificial Intelligence is a Cold Thing”

Understanding Experiences of Older Citizens to Design Municipal Digital Support Services

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ABSTRACT

We present a case study that sheds light on how older citizens living in large cities of Espoo and Vantaa in Finland’s capital region experience digital technologies in their everyday lives, especially when using public digital services. The goal is to utilize the knowledge in the design of public digital support services. The study is based on 14 semi-structured theme interviews conducted with older people over 65 years old, three interviews carried out with individuals giving digital support, and fieldnotes, inspired by ethnographic approach. The interviews with elderly included visual aids that assisted in remembering experiences with different services; they were also used as prompts to spur discussion on contemporary technological phenomena. The preliminary results indicate that digital competencies of older citizens can be described as fragmented; for example, they held highly critical views towards data collection but at the same time, lacked some basic technical skills. The support should be designed to consider some special needs of elderly but also their varying competencies and needs; further, increasing understanding on broader technological phenomena should be incorporated in the digital support to enhance the digital agency of the older citizens.

CCS CONCEPTS

•Human-centered computing~Human computer interaction (HCI)~Empirical studies in HCI

KEYWORDS

Digital support, Digital public services, Elderly, Qualitative study

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1 Introduction

The continuous updating of digital skills and knowledge can be considered as a necessity in today's increasingly digital society. To ensure everybody’s participation in the digital world, there is a need to commit to lifelong learning through developing support systems and education that are easy to reach, available for everyone and tailored for the needs of different kinds of people. Older citizens are a particularly interesting group what comes to learning possibilities, as they no longer belong to formal education nor are present in the workforce [7]. Despite not being part of formal education, the government and municipalities are responsible for improving all citizens' digital literacy, which is also stated in the European Union’s Directive established in 2018 (2018/1808 EU) [7].

In this paper, we introduce a case study which is conducted in collaboration with the Cities of Espoo and Vantaa. It draws from an earlier public project[1] funded by Finland’s Ministy of Finance, carried out between 2021–2022. The project intended to ease the access to digital support services for people living in Vantaa and Espoo as well as provide background information on how the Cities could strengthen peoples’ digital skills. The project focused on carrying out surveys and interviewing five groups of people: 1) youth (11-24 years old), 2) working citizens, 3) retired citizens, 4) long-term unemployed citizens, and 5) immigrants. The project recognized that retired, elderly people were having more challenges and worries in using digital technologies than the other groups. Many of them were not aware of digital support services, or they had not received help even when they had tried to seek for it [8].

We discussed with the city officials in charge of digital support from both Cities, and jointly decided that there is a need for more in-depth understanding of how older people experience digital technologies and public digital services in their everyday lives. This kind of knowledge could act as a basis for designing better digital support. Thus, our case study intends to answer to this need through qualitative research approach.

[1] The project was titled as *Monipaikkainen digituki kuntalaisille*; ´Multi-sited digital support for city residents’.

2 Theoretical Background

Digital inequality is a rather new form of societal inequality, intersecting in many ways with the so-called conventional forms of inequalities, such as those created by educational level, income, gender, or age [11]. It refers to the unequal distribution of digital technologies, skills, and benefits gained from digital technology use [4]. Digital inequalities affect everyday life on many levels and can have serious impacts on peoples' possibilities in society and on their overall wellbeing. Especially in rapidly digitalizing societies such as Finland, where a growing number of public services can be reached mainly (and sometimes only) through the Internet, digital competencies are crucial for getting basic services and for being able to act independently [5] [13]. Older people typically use more public services due to their life stage, such as services related to health and social benefits, and moving these increasingly online means that also adequate support should be offered. However, research conducted in the Nordic countries demonstrates that development of digital support does not correspond the pace of digitalization. This can increase digital inequalities and pose challenges to Nordic welfare societies, as argued by Christensen et al. [1].

The content of digital support is another central question. In addition to access to digital technologies, citizens of digital societies should be equipped with an adequate skillset that helps them to navigate in the surrounding, increasingly hybrid world. A broad definition of *digital literacy* includes technical and operational skills which are needed in using digital devices, software, and information effectively. Usually the definition also covers abilities that are needed to create media expressions of different kind, abilities to understand and analyze the content, and taking care of one's online presence and online identity [6] [9]. Some scholars are arguing that *critical thinking skills* should gain more visibility in digital literacy programmes; this can mean an ability to critically reflect technologies' role in one's life but also in the society in general [10] [12]. It has been stated that only this kind of broader critical understanding can create resistance and change, if people perceive some strands of development as unwanted [14]. When designing the approach for our case study, we intended to consider these different levels of digital literacy.

3 Methods and Materials

The primary data includes 14 semi-structured thematic interviews conducted with senior citizens of 62-77 years old (table 1 and table 2). Further, during the interviewee recruitment, the second author of the paper who was responsible for the data collection, gathered fieldnotes inspired by ethnographic approach. After collecting the primary data set, the researcher arranged three semi-structured interviews with actors providing digital support for senior citizens in the studied cities to gain richer understandings. The data was gathered during January and February of 2023.

Visual aids were incorporated into the interviews with older adults to facilitate the process and to elicit comments. This allowed the generation of richer data [2]. The visuals were used as a cognitive aid in three phases of the interview: to understand what digital public services the interviewees are using, second, to understand their views on digital support and its development, and third, when probing how familiar they were with different contemporary technological phenomena. During an ideation session with other research team members, the group selected the following technological phenomena to be discussed: *cookies*, *General Data Protection Regulation (GDPR)*, *artificial intelligence*, *smart cities*, and *nursing robots*. We agreed that these topics are significant for the digital society, and have been highlighted in the news; thus, they are likely to be familiar to the interviewees.

Table 1: Elderly interviewees from Espoo

Participant	Age	Gender	Employment
E1	77	Female	Retired
E2	73	Female	Retired
E3	73	Female	Retired
E4	73	Female	Retired
E5	71	Male	Retired
E6	70	Female	Retired
E7	69	Male	Retired

Table 2: Elderly interviewees from Vantaa

Participant	Age	Gender	Employment
V1	77	Female	Retired
V2	75	Male	Retired
V3	69	Female	Retired
V4	68	Male	Retired
V5	68	Female	Retired
V6	63	Female	Retired
V7	62	Female	Unemployed

All the interviews were audio recorded and transcribed. This resulted in altogether over 16 hours of recordings and in approx. 270 pages of transcriptions. All the interview transcriptions and fieldnotes are analyzed using qualitative content analysis.

4 Preliminary Findings

4.1 Everyday experiences and understandings of technologies

The analysis process is still going on, but we present here some preliminary findings. Most of our interviewees had access to the Internet and when they needed to do something online, they

accessed the services from their home. However, lack of some basic functional skills such as how to create and send a pdf file caused problems when trying to take care of their own matters.

Otherwise, they followed traditional broadcast media, and they were very well aware, for example, of cybercrimes that have made headlines in Finland during recent years. This relatively high awareness of digital threats combined with low *self-efficacy* [5], a feeling that one does not possess adequate skills, resulted in fear. This fear, in turn, can prevent using digital services. In other words, the skillset of the elderly was fragmented in a sense that they had high understanding of particular risks related to technological phenomena, but on the other hand, they lacked knowledge on how to prevent certain risks, for example, related to identity theft. They also lacked information on which digital actions are safe and which are not. The more important the personal matter they needed to take care of was, such as sharing personal health information, the more they trusted analogical services (paper forms, for example).

Despite having a lot of information on issues usually covered by the news media, most of the technological phenomena our research team had deemed as currently important, such as artificial intelligence, was more or less strange to our interviewees. Typically, the researcher performing the interviews had to provide a definition of the concept at first. After this the interviewees recognized some public discourses around the phenomena and were willing to discuss them and reflect on their perceptions. The title of this paper ("Artificial Intelligence is a Cold Thing") is a quote from one of those discussions, in which the interviewee compared AI to 'cold' robotic and automation technology. During these discussions the older adults also expressed critical views and worries about the development.

4.2 Forms of Digital Support

What comes to digital support, many of our interviewees resorted in family members or close ones when they needed help. This type of digital support has been recognized as important also in previous studies [3]. The challenge with this type of support seemed to be that family members are not teaching older adults, but they just do things for them: thus, the older adults do not learn to do things themselves, and they lose their (digital) agency. This can also result in dependency and in the worst case, in abuse.

The support given by family members takes place at home, which was deemed as convenient. However, the elderly interviewees did not want to receive public digital support services at home but stated that libraries and other public spaces are most suitable for that type of support. On a practical level, one very convenient way to support elderlies' digital technology use would be to provide them with visual aids of using different services in which each of the steps they need to take is described. They told us that remembering these paths is sometimes very challenging. On a more abstract level, public digital support should be layered in a sense that in addition of addressing technical and functional skills, it should also provide older adults with broader understanding of different technological phenomena. If the broader understanding is missing, fear of doing something wrong, fear of cybercrime, and low self-efficacy in general can result in non-use. This does not need to be one-way lecturing, but it could also happen through discussions or peer-to-peer debates; our interviewees were clearly willing to discuss about the different technological phenomena.

5 Conclusions

We have presented in this brief paper some preliminary results of a study focusing of older adults' experiences of digital technologies in a highly digitalized society. Further, we have introduced some preliminary ideas for future digital support. These results will be further polished when we proceed with our analysis. The intention is also to present the ideas to the representatives of the Cities of Espoo and Vantaa and discuss with them about the future steps.

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