

Computer Usage among Senior Citizens in Central Finland

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Background

Currently, Finland can be characterized as a prime example of Information Society, with one of the highest rates of mobile telephone and broadband usage in Europe and successful developments in electronic services, such as e-commerce and e-government. Another specific feature of the Finnish society is that its population is ageing at a pace faster than the population anywhere else in Europe. Information and communications technologies (ICTs) have been seen as tools in providing services and supporting social inclusion and quality of life, also for the growing population of senior citizens. In order to develop ICT that better suits the needs of elderly people, a research project was launched by the Agora Human Technology Center at the University of Jyväskylä, Finland. Partners in the research projects included UTA Jyväskylä, local pensioners' associations and the town of Saarijärvi.

One of the first steps in the research project was to investigate the current situation of ICT usage among senior citizens. This was achieved by conducting a survey in the Central Finland area during the spring of 2007. The purpose of the survey was to examine the access to and use of ICT, reasons for not adopting certain technologies and problems that elderly users have with technology. The questions in the survey related to respondents' experience of technological devices and electronic services in general and the use of mobile phone, digital television, computer devices and computer applications in particular. In addition, the respondents' attitudes toward ICT, preferences in learning technological skills and the provision of services supporting ICT use were explored. The survey was administered to a sample of 1555 people through pensioners' associations, the University of the Third Age (UTA), the home help service and the local day care centre. In all, there were 714 respondents. The response rate was 46 per cent. 60 per cent of the respondents were female and 40 per cent were male. The age of the respondents varied from 55 to over 90. The age groups with the most respondents were 65-69 (23 %), 70-74 (21 %) and 60-64 (20 %).

Next, the results concerning the access to and use of computers as well as problems encountered while using ICT are reported in more detail.¹

Results

Based on the survey results, senior citizens in Central Finland are rather well acquainted with ICT. Mobile telephones are used by 90 per cent and digital receiving devices and computers by two thirds of the respondents. Several problems and barriers in technology access and use were identified. Many of these obstacles could be eliminated by involving senior citizens in the design of technology. It is particularly important to develop technology that fits the lives of old people living in rural areas. They need to be motivated to use technology so that they are not excluded from the Information Society.

In regard to prior experience of computers, the respondents were divided into users and non-users. The majority (67 %) of the respondents indicated that they had prior experience of using computers. The closer examination of the computer-using seniors revealed that the issue of access to computers was solved for the majority of these seniors. Altogether 86 per cent owned a computer and 75 per cent also had a network connection. The frequency of use varied from 65 per cent of seniors using computers daily to weekly (23 %) and less frequent use (12 %). Most of the respondents who had used a computer had used it for more than five years (66 %), while 27 per cent had 1-5 years of experience of using a computer and 7 per cent had used it less than a year. Three quarters (75 %) of the respondents who had used a computer agreed that they were interested in using it. However, they did not consider themselves particularly skillful: 53 per cent did not describe themselves as skilled users. Nevertheless, 80 per cent of the respondents believed in their own abilities to learn to use new technology and 73 per cent wanted to learn more about using a computer.

The respondents who had experience of computers were asked about the purposes for which they use a computer. Computers were most commonly used for word processing and e-mail with 73 per cent of computer users using them (Fig. 1). Online banking services were utilized by 70 per cent of the computer-using respondents. The Internet was mainly used for information seeking in general (67 %) and particularly for checking opening hours, schedules and other specific information (60 %). Other information that the respondents searched for related to health, current affairs and local events, hobbies and services for elderly citizens. About 50 per cent of the computer-using respondents said that they used a computer for watching photos or videos or listening to music and 35 per cent of the respondents stated that they played computer games. In all, 29 per cent of the respondents booked or purchased tickets online and 22 per cent used library services with the help of a computer. About 20 per cent used a computer as a tool for a hobby, such as genealogy. 16 per cent of the respondents had experience of shopping online.

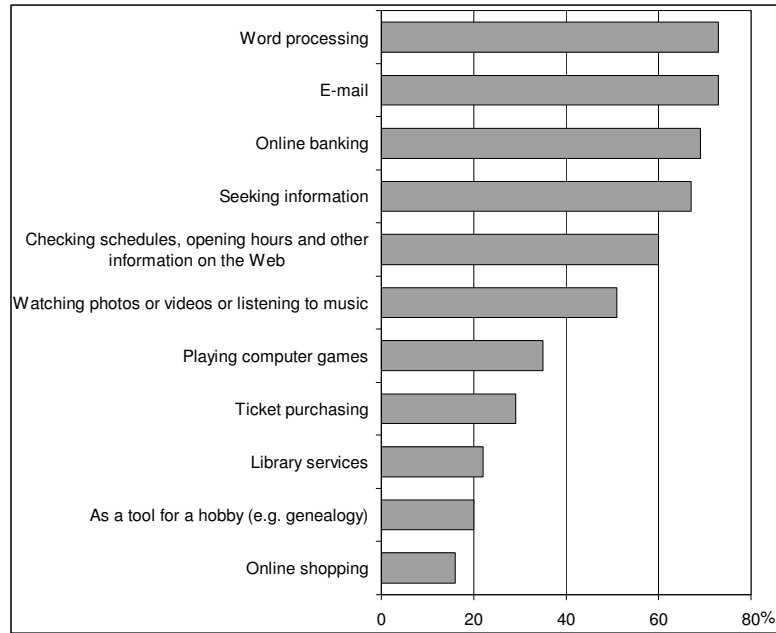


Fig. 1. The purposes for which the respondents use a computer (% of respondents)

Reasons for not using a computer

Even with the majority of the respondents familiar with computers, there was still a relatively large group of senior citizens (33 % of the respondents) stating that they had never used a computer. Moreover, 72 per cent of them said that they were not interested in learning to use it either. This is in stark contrast to the 73 per cent of the computer-using respondents who said that they wanted to learn more about computers. The results also suggest that age, education and place of living are significant factors in determining whether an older person makes use of ICT. Most of the non-users were in the older age groups. Another similarity among the non-users was the environment in which they lived: there were less computer-users (21 %) in sparsely populated area than in towns and other more densely populated areas (79 %). Gender did not have a significant effect on computer use: 36 per cent of female respondents were non-users compared to 29 per cent of male non-users.

One purpose of the survey was to explore the reasons that the elderly people have for not adopting various ICTs. The seniors without prior experience of computer usage had several reasons for their lack of use (Fig. 2).

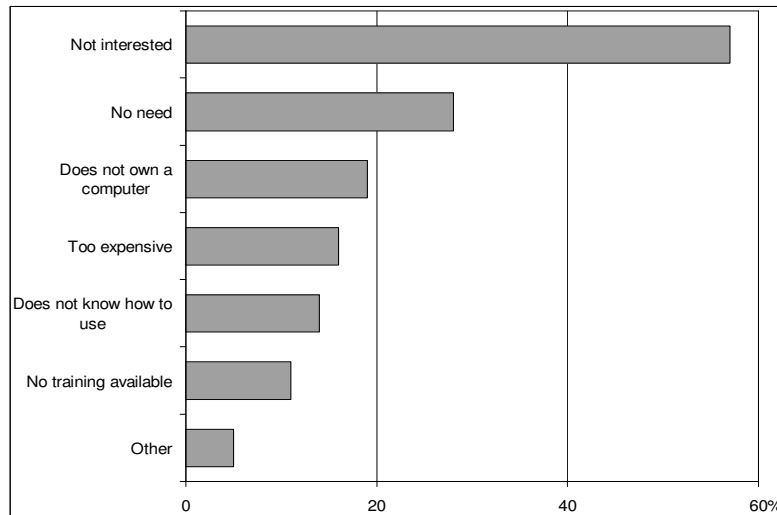


Fig. 2. Reasons for not using a computer (% of respondents)

The three main categories of reasons for computer non-usage were related to the issues of motivation, access and skills. The lack of motivation is evident through two aspects. Firstly, 57 per cent of the non-computer using respondents stated that they did not find computers interesting. Secondly, 28 per cent said that they had no need for a computer. Problems with access to computers were two-fold, as well. Almost a fifth (19 %) of the respondents said they did not have a computer of their own and had difficulties accessing public computers. Access was also related to the price of computers, when 16 per cent of the respondents considered computers to be too expensive for them to purchase. Other problems that the respondents mentioned were related to their skills in using computers. Firstly, they were afraid that they would not know how to use a computer (14 %) and secondly, they had not had enough training to get them started in using one (11 %). Other reasons (5 %) that the respondents mentioned were that they did not have enough time to learn to use it or that they were afraid that they would end up spending too much of their time using it. Some respondents said that they had a family member who used a computer so they had no need to use it themselves.

Problems with ICT

The respondents were asked to describe the problems they have encountered while using ICT. The responses concerned with technology in general or related specifically to computers, digital television, or mobile phones. Most respondents mentioned one or two problems that they had observed. Five general categories of problems were identified. To illustrate each category, some responses are quoted as English translations. The categories are as follows:

- Elements of technology
- Attributes of users
- Skill requirements
- Management of technology

– Technical problems

The first category of problems relates to the elements of technology. Many respondents said that technology was too complicated and the devices and applications had too many features and functions. Specific software that caused problems included operating systems and antivirus software. A problem linked particularly with mobile telephones and remote controls, was that buttons were too small. It is difficult for the elderly to see the symbol or text attached to the button and it is also difficult to hit only the correct button.

“The remote control for the digital television is so crammed with stuff that they have had to make the buttons unbelievably small and the text or symbol even smaller. You try and fit your stiff finger on a button of some millimeters in diameter and at the same time see which button it is. What is more, using the buttons requires such a gentle touch that even the young salesman at the store had trouble making it work.” (female, aged 65-69)

Second category of problems relates to attributes of the user. Many respondents stated that their age was the source of problems. In their experience, particularly deteriorating eyesight and motor functions were causing problems. Also, using technology set too much strain on their cognitive capabilities. They were forgetting details and felt that they were not able to think as quickly as the computer required. One respondent felt that *“I’m not fast enough”* (female, aged 70-74) and another confessed that *“I feel stupid”* (male, aged 70-74). In regard to mobile telephones, one respondent said, *“making a call with a mobile phone is still difficult (poor eyesight), taking a call I can manage”* (female, aged 75-79).

Third category of problems concerns with skills required of the user. One common problem stated by the respondents was that they did not have the necessary skills to use technology. Moreover, they felt that they were required to constantly learn new skills. They also mentioned that they had problems because instruction manuals were too complex or provided confusing and incomplete information. Overall, the technological jargon caused problems. The respondents did not understand functions and features of technology or the terminology used in instructions. Especially problematic was the lack of language skills. Some respondents did not have English language skills that would help them understand instructions, software functions and the content of the Internet.

“I didn’t understand everything even though it was plain Finnish so one doesn’t always understand what everything means” (male, aged 60-64).

“The terminology of the computer is difficult to understand” (male, aged 55-59).

“My English language skills are not good enough” (female, aged 55-59).

Fourth problem category concerns with the management of technology. The technology develops so rapidly that it is difficult to keep up with it. The required hardware and software updates can also be

expensive. Furthermore, learning new skills is required in order to use the new advancements. Installing new devices causes problems as well. An added problem emerges when appliances and their various versions do not function together because of compatibility issues.

“Information technology is moving ahead with such rapid leaps that you couldn’t possibly have the skills or time to take advantage of them all even if you wanted to.” (female, aged 65-69)

“Starting to use new software and devices and learning new skills is more difficult and takes more time due to age and too many novel application features.” (female, aged 55-59)

Fifth category includes diverse examples of technical problems. Some typical examples are problems with network and mobile telephone connections as well as computer crashes. The respondents did not know how to solve problematic situations or how to get help. They also said that many problems require expert advice which can be costly and difficult to obtain.

“If and when technical problems occur, you usually need an expert to solve them. Often you don’t know who to turn to and what the help is eventually going to cost.” (female, aged 55-59)

“The computer doesn’t always work the way it should and you don’t know what to do.” (female, aged 65-69)

“The computer crashed. Information got lost.” (male, aged 75-79)

Discussion

The survey results give an interesting insight into the Information Society as senior citizens see it. Based on the results, one can also distinguish some factors that influence ICT use. One can divide the respondents into those who have access to ICT and who use it and into those who do not have access and consequently do not use ICT. There seem to be certain groups of people who are at risk of being excluded from the Information Society. These include people of old age and people living in sparsely populated rural areas. These are also the people who could benefit from technology the most. With the help of ICT, they could, for example, do their shopping and keep in contact with family and friends. As a consequence, they could live longer in their own homes despite the distance to the physical location of services. Special attention should be paid so that these people are included in the Information Society.

Although senior citizens can be divided into those who use a computer and those who do not, the reality is not as straightforward. The seniors who use ICT might use it for very simple and mundane purposes and not take advantage of advanced electronic services. As the results of the survey reveal, users encounter serious problems that restrict, even prevent the use of ICT. Similarly, non-users have various reasons for not using ICT. Providing access is not the only solution. The issues of access may change relatively quickly so that in the near future every citizen will have the possibility to access a computer and the Internet. On the other hand, there are deeper problems of motivational barriers, i.e. how to motivate elderly people to learn about ICT and to use electronic services. The future generations will

have grown familiar with using ICT in their everyday lives but the elderly of today have hesitant attitudes that cannot be changed overnight. Nevertheless, it should be noticed that also the technology is constantly changing. This poses challenges for the future generations of older people as well.

For both users and non-users, it is vital that they are motivated to use ICT. It is especially challenging to find ways to motivate the non-users. The majority of non-users (72 %) said that they had no interest in learning about computers whereas the majority of computer-users (73 %) stated that they wanted to learn more. Motivational barriers are evident when considering the reasons why senior citizens have not adopted certain ICTs, such as computers. The majority of the reasons relate to the fact that the elderly do not find the current technologies relevant: it is not designed for them and it does not provide services that they need. There are also some obvious obstacles that make using ICTs difficult, such as lack of interest, lack of skills and age-related functional limitations.

Senior citizens are not a homogeneous group of people. They are individuals when they are younger and they continue to be individuals when they age. Furthermore, the process of aging is different for each. Therefore, it is too narrow a viewpoint to think of one solution to solve all problems and remove all barriers of ICT use for the elderly. This is reflected in the respondents' accounts: their descriptions of their experiences are very personal and varied and therefore extremely valuable. What is important is that elderly users are taken into account when designing ICT. There are many seniors who want to be involved in developing technology that fits for them. They need to be heard.

ⁱ The results reported here have been published in Jokisuu E., Kankaanranta M. & Neittaanmäki P. Problems and Barriers in Information and Communications Technology Usage among Senior Citizens in Finland. In J. Barroso, A. Cunha, F. Godinho, J. Bulas Cruz & V. Santos (Eds.) Proceedings of the 1st International Conference on Software Development for Enhancing Accessibility and Fighting Info-exclusion. UTAD – Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal, 8-9 November 2007.