Promoting the Adoption of Internet among Elderly People

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Abstract: In the last years there has been a rapid diffusion of the use of Internet among elderly people in Sweden. However, still almost half of the population in the ages of 65 years and up do not participate in the Information Society. The aim of this study is to create an understanding of the major influences behind the appropriation of Internet, of important motives and obstacles and finally of suggested actions to be taken in order to override the obstacles. An on-line questionnaire was distributed to the members of SeniorNet Sweden, approximately 1000 responses were received. Psychologically oriented arguments dominate both motives and obstacles, while most of the suggested actions to be made are of social nature.

Keywords: Digital divide, elderly, adoption of Internet usage

1 Introduction

Stereotypic conceptions about elderly peoples' technology use are common. One such an attitude is that elderly feel uncomfortable with new technical means and try to avoid them. Actually, elderly people belong to the most experienced technology users in the contemporary society. A characteristic feature is that they appropriate new technologies in an active and conscious way [1].

The adoption of Internet usage by Swedish seniors has experienced a rapid development during the last years. In 2000 only 12 percent of the population in the ages from 65 years and up had access to the Internet at home [2]. In 2007 the corresponding figure was 55 percent in the age group 65-74 years and 25 percent among those older than 74 years [3].

During the 1990s, the diffusion of personal computers and Internet at home was correlated to two major conditions: the use of PC applications at work, and household with school children. Thus one major explication to the absence of PCs among elderly people was that they had retired before the computers were brought into general use in the working life. The other reason was that in the case of children, that they had already left home when computers became commonplace [2].

However, still almost half of the population in the ages of 65 years and up do not participate in what is called the Information Society. They are excluded from the Internet as a means to search for and retrieve information, to carry out payments, bookings and purchases. Nor do they benefit from the email to contact kindred and friends [4].

Less obvious, but for the individual sometimes more painful, is the feeling of being divergent, a sensation of inferiority by not being able to master one of the basic tools in modern society [4]. In such a perspective, the appropriation of IC technology gives a signal of an open minded and progressive individual, still making an active part of the society, despite being retired from professional life [5].

With the ambition of a further reduction of the digital divide among elderly, it is of critical importance to understand the driving forces behind the acquirement and appropriation of Internet technology. Psychological theory distinguishes between intrinsic and extrinsic incentives. A motivation is extrinsic if needs are satisfied indirectly, especially through monetary compensation while intrinsic incentives steam from the very pleasure of carrying on an activity [6].

2 Objectives

In practically all sectors of our society citizens are offered enhanced opportunities to adapt private or public services to individual needs. A majority of these services are available on the Internet to anyone with access to a computer with a broadband connection and the necessary skills. To a great extent the elderly are lacking these basic conditions.

The aim of the study is to make use of the commitment and experience of the members of SeniorNet Sweden to find solutions to these problems. In this process four basic topics will be discussed:

- What is the origin of a "digital divide" among elderly people?
- Which are the main motives among elderly people to take up Internet?
- Which are the main obstacles?
- What actions should be made to promote the diffusion of Internet technology among elderly people?

3 Methodology

3.1 To whom should we address the questions?

What prompts people to change the way in which they perform everyday tasks? What makes them use the Internet instead of their old, familiar routines?

Domestication theory tries to describe the processes by which new technology is appropriated by its users. First, technologies are integrated into everyday life and adapted to daily practices. Secondly, the user and his or her environment change and adapt accordingly [7].

Thus to understand the appropriation processes, knowledge about a) the opportunities of Internet technology and b) the situation of the individual in everyday life is required. That means that it is not possible to get relevant information from the target group, i.e. those who are not using the Internet. The reason is that most of them are expected to lack information and own experiences about the technology.

The ideal case should be to gather information from persons that previously have been users but now refrain from the use of Internet. Yearly recurrent panel surveys indicate that "ex-users" exist, however they are not very frequent, nor are they easy to spot [8]. The second best alternative would be to address the questions to such Internet users that are familiar with the social situation of the target group, in this case senior Internet users.

This approach was tested by the Swedish ICT Commission in an on-line survey in 2002 among female members of the Swedish Information Processing Society [9]. At that time the "digital divide" also included women. Although women seemed to have access to the Internet at the same extent as men, many women were reluctant to adopt the new media. As a major characteristic, the study rejected the common view of that time of a well-developed and accurate ICT technology to meet individuals various needs. Instead it highlighted a number of deficiencies with respect to e.g. connectivity, web applications and the organisation of family activities, making the Internet a tool of questionable value in most women's everyday life.

3.2 The Survey

SeniorNet Sweden is an independent organisation with the aim to provide introduction and support to the information society among elderly people. There are 7 500 members distributed all over Sweden. An on-line survey was carried out among the members during six weeks in the fall of 2007. Approximately 1000 responses were obtained which gives a response rate of 13 percent.

3.3 The Questions

The design of the questionnaire was structured according to the four topics indicated in Objectives:

- The origin and nature of a "digital divide" among elderly people
- Motives of appropriation
- Obstacles
- Actions to promote Internet usage

For each topic a number of hypotheses were formulated, covering economically, socially and psychologically oriented motives, obstacles and actions. For the obstacles and actions topics, technical aspects were added as well.

Literature studies and conclusions from workshops with four SeniorNet Sweden clubs provided the input to the hypotheses. A number of response alternatives were formulated, each one representing the various explanatory factors.

The questionnaire included some background factors, such as gender, age, urban/rural living and born in Sweden/other country.

4 Results

4.1 The Respondents

Of the correctly filled-in questionnaires received, the distribution between women (48%) and men (52%) is fairly equal. Within the largest age group, 66 – 75 years, the gender distribution is exactly 50/50, while the men are in majority in the older group and the women in the younger group,

Table 1: Age and gender distribution among the respondents

	Women	Men	Number of respondents
65 years or younger	56%	44%	127
66 to 75 years	50%	50%	569
76 years and above	38%	62%	272
Total	48%	52%	968

In Table 2, female users are in majority among the newcomers, while more male seniors are found among those who became Internet users more than 10 years ago.

Table 2: Distribution according to time for appropriation of Internet and gender

	Women	Men	Number of respondents
Less than 2 years ago	60%	40%	105
2 to 10 years ago	49%	51%	537
More than 10 years ago	39%	61%	311

Of other background factors, 8% of the respondents live in places less than 3000 inhabitants and 9% report that they are born outside Sweden. However, in the outcome of the survey, no statistically significant observations have been observed with respect of these criteria so they will not be further considered.

Table 3 indicates that the respondents are very frequent Internet users. Daily use is reported by 87% of the men and 75% by the women.

Table 3: Frequency of Internet use with gender distribution

	Women	Men	Number of respondents
Everyday	75%	87%	765
A few times a week	21%	12%	154
More seldom or never	4%	1%	21

There is a clear relation between frequency of use and for how long a person has been a user (Table 4). 94% of the most experienced users claim daily user of Internet, while only 62% among the newcomers. Obviously the more a person gets acustomed to the Internet, the more he or she will use it.

Table 4: Frequency of Internet use with respect of time for appropriation

	Everyday	A few times a week	More seldom or never	Number of respondents
Less than 2 years ago	62%	32%	6%	105
2 to 10 years ago	78%	20%	2%	537
More than 10 years ago	94%	6%	0%	311

4.2   Elderly people as laggards

According to an investigation of the diffusion and use of Internet carried out by the Swedish ICT Commission in 2002, there are two major explanations to differences in appropriation: 1) professional situation and 2) children at home[10]. A person who has learnt IC technology at work gets the impulse to bring the technology to the private sphere.

For those families where the professional situation does not initiate the use of Internet in the private domain, this may be compensated by having children at home. Although not being Internet users themselves, parents are keen to see to that their children are provided as good conditions to develop computer skills as their class mates.

Looking at Table 5, the first hypothesis seems to be confirmed by the data. In all, 37% of the respondents indicate impulses from professional life. Among those that are users since more than 10 years, the share amounts to 60%. No significant differences between women and men are observed.

Table 5: Frequency of Internet use with respect of time for appropriation

	Less than 2 years	2 to 10 years	More than 10 years	Total
Professional life	6%	30%	60%	37%
Family members, relatives and friends	25%	19%	6%	16%
Internet promotion campaigns	14%	5%	0%	4%
Personal curiousness	44%	37%	28%	35%
Club or hobby activities, other	11%	10%	6%	9%

In the second place, personal curiousness is reported as major driver to take up Internet (35%). However, 44% of the newcomers indicate this as the most important argument.

On the other hand, the children-at-home hypothesis as a major explanation is not supported by the data. One possible explanation may be that for a majority of the respondents, their children had already become independent when the PC became everybody's tool.

4.3   Main motives to take up Internet

From a list of motives the respondents were asked to indicate the three most important ones. The results are presented in Table 6. Nine out of ten respondents consider the search and retrieval of information as one of the most important motives. To enrich one's interests and to keep up with the modern society's claims are also considered very important by a majority.

Table 6: Main motives for elderly to take up Internet

Motives	Kind of motive	Share (%) of respondents considering it important
To search for and retrieve information, such as health care information, carry out banking business	Economical/ practical	91%
To enrich one's interests such as to plan and book travels, food, garden and genealogy	Psychological	74%
To become more visible to children and grandchildren	Social	31%
To maintain social contacts and daily activities despite of physical disabilities	Technical	42%
To check prices and engage in e-commerce	Economical/ practical	25%
To establish new contacts with like-minded people	Social	24%
To keep up with modern society	Psychological	70%

Somewhat surprising, social motives such as become more visible to children and grandchildren, as well as to establish new contacts with like-minded people, do not get very high scores. On this issue, the senior generations seem to differ considerably from their grandchildren. Among the youngest generation, social motives are the major driver to take up Internet [11].

The experienced users tend to stress the arguments of search and retrieval information, to carry out banking transactions and the like, while the newcomers underline the importance of being in line with the modern society

Table 7: Kind of motives to take up Internet

Kind of motives	Share (%)
Psychological	40%
Economical/practical	33%
Social	15%
Technical	12%
Total	100%

To sum up, psychologically oriented motives accounts for 40% of all respondents' hits, followed by economical/practical motives with 33%.

4.4   Main obstacles to take up Internet

In a similar way the respondents were asked to indicate three of the most important obstacles. As presented in Table 8, doubts about one's ability to learn the new technology and the costs associated with the use of Internet at home are considered important obstacles by a majority.

Table 8: Kind of obstacles to take up Internet

Obstacles	Kind of obstacles	Share (%) of respondents considering it important
Computer hardware, software and broadband facilities are expensive	Economical/practical	66%
Doubts about one's ability to learn new technology	Psychological	82%
Friends and relatives do not use Internet	Social	7%
Disapproval of the information society	Psychological	21%
No appropriate room for a computer at home	Psychological	4%
The spouse is not interested	Social	11%
Unwillingness to alter daily routines	Psychological	26%
Visual, motoric or other disabilities	Technical	30%

In all, psychological obstacles get more scores than the three other categories together (Table 9). Perhaps this does not come as a surprise as the psychologically oriented obstacles in the list of response alternatives are in majority as well.

Then it must be repeated that the response alternatives were formulated as a result from workshops with four SeniorNet Sweden clubs. The categorisation into economical, social etc. arguments was added afterwards. No attempt has been made to equalise the number of alternatives within each category.

Table 9: Kind of obstacles to take up Internet

Kind of obstacles	Share (%)
Psychological	60%
Economical/practical	23%
Technical	10%
Social	7%
Total	100%

4.5 Suggested actions to promote the diffusion among elderly people

From a list of actions to be made in order to overcome the obstacles, the respondents were asked to indicate the three most important. According to Table 10, the most important actions by far are those that provide support to buy, install and connect the system (82%) together with somebody to consult when problems in the handling of the system arise (81%). Training courses together with other seniors is also considered important by a majority (66%).

Table 10: Suggested actions to be made

Suggested actions to be made	Kind of actions	Share (%) of respondents considering it important
Support to buy, install and connect the computer system	Social	82%
To buy the equipment at a reduced price	Economical	32%
Campaigns to promote Internet use	Psychological	29%
Having somebody to consult when problems arise	Social	81%
Training courses together other seniors	Social	66%
To switch from ordinary telephone modem to broadband connection	Technical	20%

Although a majority of the respondents considered the cost of the computer hardware, software and broadband subscription an important obstacles, only 32% of them suggest a price reduction as an appropriate action to stimulate the diffusion.

To sum up, in order to neutralise the obstacles, socially oriented actions receive ¾ of the scores (Table 11).

Table 11: Kind of actions to be made

Kind of actions	Share (%)
Social	74%
Economical	10%
Psychological	9%
Technical	7%
Total	100%

5 Conclusions

In the early 2000 relatively few persons in the ages of 65 and up had adopted Internet. Besides, the majority were men. The male dominance from the early days has practically disappeared due to an accelerating female appropriation during recent years. This development is mirrored by the respondents; practically half of them are male, half female. Also the attitudes reflected in the questionnaire responses are remarkably similar.

Among the most experienced seniors, those who are Internet users since more than ten years, professional life was the key to the appropriation of Internet technology. This explains clearly why elderly people have been comparatively slow to take up the new technology. Most of them did not become familiar with personal computers and Internet at work. For the newcomers, personal curiousness together influences from family, relatives and friends now provide the important impulses.

The single most important motive to use Internet is practical: to search for and retrieve information, to make payments etc. But taken altogether, psychological motives dominate: the pleasure and enrichment of personal interests with Internet as a powerful tool, and the personal satisfaction from the feeling of being a part of the information society.

Psychological arguments are predominant to explain the reluctance by some seniors to take up Internet. The lack of confidence to manage the technical aspects of the system, computer maintenance etc is of major concern. This argument is not without logic: contrary to the situation at most workplaces, there is no ICT support function at home.

This is also reflected in the suggested actions in order to promote the Internet use among seniors: 1) Personal support to buy and install the system, 2) Someone to ask for support when problems occur, and 3) Training courses together with other seniors.

As a result of these recommendations, SeniorNet Sweden will carry out a survey of the resources available to provide the suggested support and training actions on a local level among the 300 Swedish municipalities. This will take place in the fall 2008, and in partnership with the Swedish Association of Local Authorities and Regions and Sveriges Pensionärsförbund, a national association of older people.

Acknowledgement

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