Young-elderly and digital use

Hans Allmér[1] and Michael Råberg[1]

[1] Linnaeus School of Business and Economics, Linnaeus University, Gröndalsv. 19, 39182 Kalmar, Sweden
{Hans.allmer@lnu.se, Michael.raberg@lnu.se}

Abstract. Sometimes things are taken for granted. If people in general, and elderly people in particular are asked, they might have different views of what they need, demand and are interested in when it comes to services produced with computers and mobile devices, as compared to what the industry offers and assumes that they want, need and value. When Information Systems (IS) are designed it is important that they are developed in accordance with their target group. This explorative study investigates how the group known as young-elderly (60 – 75 years of age) in Sweden perceives services on the Internet and what is required in order to capture their interest. This study indicates that it is vital to build a servicescape in coherence with the customers' demands, needs and interests as well as to establish credibility in order to gain their trust.

Keywords: Information System (IS), Marketing, Servicescape, Service, Trust, Credibility.

1 Introduction

All people, young or old, wish to have a good life. Today people are living longer and are healthier even at advanced ages, which is something that at times is taken for granted. However, the fact that people are living longer brings about new problems, which is something we will address in this paper. We argue that a combination of skills, including marketing, understanding the customer and tailor-made digital services can create opportunities to help solve these problems.

1.1 Aging, Marketing and Digital Services

We – the authors – are lecturers in marketing and we have backgrounds as practitioners in marketing and doing business. As lecturers, as well as practitioners, we have noticed and experienced that there seems to be a gap between what is offered from the IS-industry and what we perceive that older people in particular need, demand and value. In this paper, and in a second paper [1] with focus groups, we argue that digital use can play an important role in addressing the above mentioned problems and therefore there is a need to understand the way in which the young-

elderly group uses and behaves on the Internet as well as their usage of digital services on computers and mobile devices.

Not long ago the conventional image of people's average expected lifetime in Sweden appeared in the form of an age pyramid, one which at its apex, pointed out that few individuals were expected to live past 80 years. Today, the pyramid has been replaced by a figure (Fig. 1) more reminiscent of an, admittedly slightly uneven rectangle, where there has been a shift up, as many people are expected to approach or even pass the age of 100 [2].

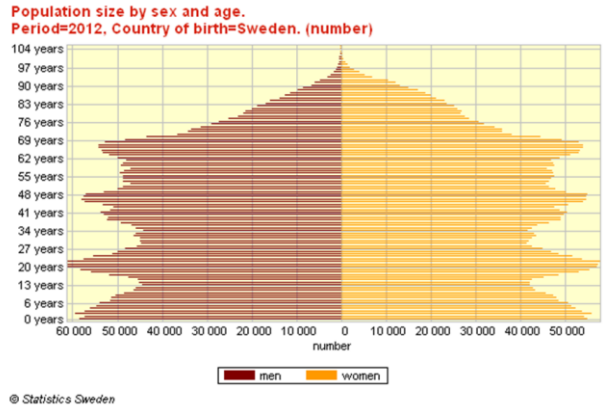

Fig. 1. Population in Sweden year 2012 [2]

The United Nations Population Fund (UNFPA) [3] argues that the group known as young-elderly (60 – 75 years of age) is getting larger and larger, not only in the western world but worldwide. For the individuals themselves, for their families and for the society, the rapid growth of this group creates demands and needs which must be dealt with, not in the future, but already today.

We have noticed on the Internet, in newspapers and in TV commercials, for example, that various companies try to persuade people to download apps to their computers and mobile devices. The argument used by the marketers often describes what the digital service can do for the customer and that it is shaped to facilitate the customer's life. However, what we will discuss in this paper is that not everyone pays attention to the digital services offered.

1.2 Purpose of the Study

The purpose of this study is to search for a pattern in the digital services used by the young-elderly on devices such as computers, mobile phones, smartphones and tablets. Our aim is to analyze the group of young-elderly who are retired or will soon retire, with a focus on their relationship to digital services and their response to what the industry offers. To fulfill this we will give an insight into what services they use often, seldom or not at all on the Internet and thereby create an understanding of what digital services can be developed that are suited for the target group of young-elderly people and that help them in their daily lives We also aim to show whether or not

young-elderly are interested in sharing knowledge and making use of others' digital service knowledge.

This study will be one step in a series of steps toward understanding the demands and needs of the young-elderly and thereby will hopefully give some insightful thoughts to the IS-industry and others who might be interested.

1.3 Research Question and Structure of this Paper

The research question is:

- What is required to capture the attention of the young-elderly and to get them interested in the use of digital services?

This paper will be structured as follows: Section 2: Background. Section 3: Study and methodology. Section 4: Literature review. Section 5: Findings. Section 6: Discussion. 7: Conclusions.

2 Ageing in the Internet era

Through their organization the UNFPA, the United Nations (UN) has conducted a study about worldwide ageing and argues that [3, p.12] *population ageing is one of the most significant trends of the 21st century.* The UNFPA continues by claiming *Population ageing is happening in all regions and in all countries at various levels of development*. The UNFPA [3, p.12] claims that *population ageing also presents social, economic and cultural challenges to individuals, families, societies and the global community*. The UNFPA (Fig. 2) states that in 1950 there were 205 million people in the world who were 60 years of age or older and in 2012 that figure has increased to 810 million. The forecast indicates the figure will be one billion in about 10 years' time and that the number will double by 2050. The extent of all these people will create large demands and challenges for society and for people's way of living.

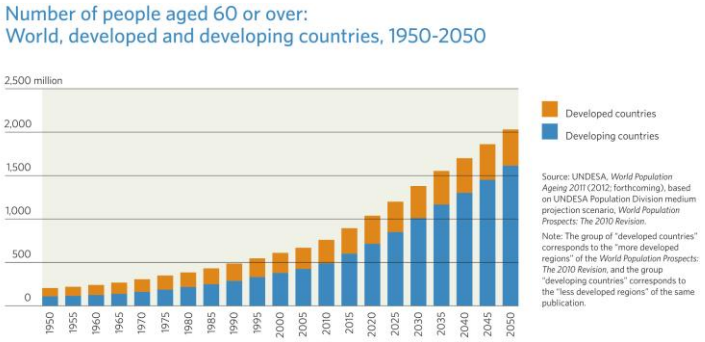

Fig. 2. Number of people aged 60 or over (UNFPA- Ageing in the Twenty-First Century: A Celebration and A Challenge, 2012) [3]

What the UNFPA argues is evidenced by what Statistics Sweden (SCB) [2] found in their research of Sweden's population structure changes from 1850 to date, which also presents a forecast for the coming years until 2050. The report indicates that people are more and more likely to live longer. According to SCB's population forecast, the average age of a person at the time of their death will be 90 years or older around the year 2060. SCB estimates that half of those who are born today will reach the age of 92. It should also be added that in addition to people living longer, the research indicates that the number of children born per woman in a number of countries in Europe is between 1.3 and 2.0 [4]. According to Statistics Sweden's [2] latest population estimation from 2009, the total population in Sweden will increase from today's 9.5 million to 10.7 million in 2030 and 11.6 million in 2060 (Fig. 3).

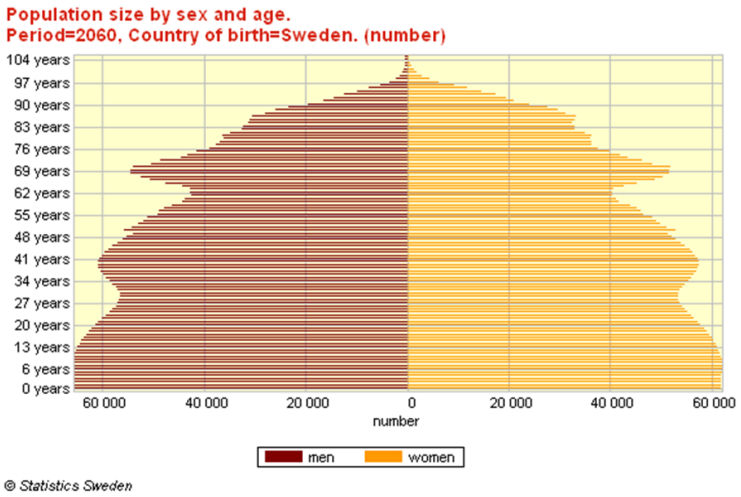

Fig. 3. Population in Sweden year 2060 [2]

If the proportion of the population who are gainfully employed remains at today's level, it is expected that the workforce between the ages 16-74 will amount to just over 4.5 million by 2030. This is an increase of over 140,000 persons compared to 2010. Each income earner will have to earn for 2.35 people including him- or herself compared to 2.14 persons in 2010. SKL, the Swedish Association of Local Authorities and Regions, has calculated what the costs of welfare services will be in Sweden in year 2030. They state that with today's system of financing, there will be a gap between the need of public services and public resources, which means that taxes will have to be increased by 13 SEK [2]. To minimize the burden of the welfare system's costs per capita, more people have to work more years and retire from work at a higher age. To maintain the current dependency ratio in the year 2030 would require that at least 600,000 more people were gainfully employed than are today [2]. SCB has also stated that if people work longer, that is to say, retire at an older age, it will have a huge effect on decreasing the burden. SCB describes that the employment rate drops sharply at the age of 60. As mentioned before the group of people who are 65 years and older is expected to grow significantly and they will represent an even

larger part of the total population, therefore it is important that more people work longer, beyond 65 years of age. This is possible to achieve by improved health and well-being further up the age curve.

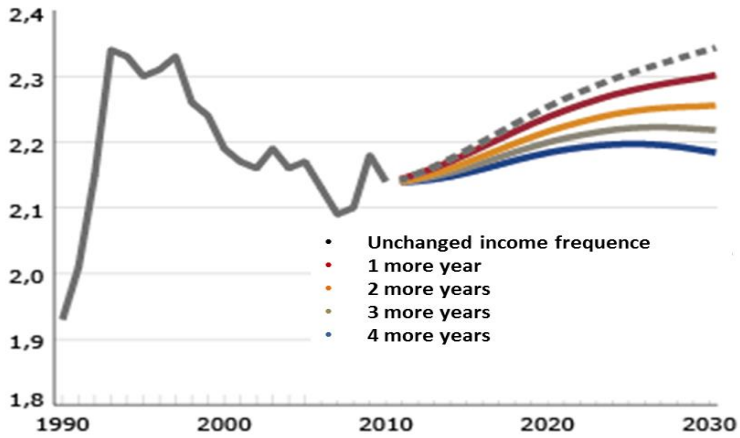

Fig. 4. Dependence of years worked 1990-2030. [2]

Fig. 4 shows that a reduction of the dependence of individuals is possible if more people work longer. In early 2012, Sweden's Prime Minister, Fredrik Reinfeldt claimed that in the not too distant future, Swedes will have to, on average, work to the age of 75 to maintain the Swedish level of welfare [5]. The Prime Minister continued on the 6th of March 2013 by suggesting a lower income tax for people over 63 years of age if they continue working [6].

From our perspective, in the Internet era the group of young-elderly is at the intersection between people who are familiar with using digital services and those who have little or no experience in doing so. The habits that this group acquires will stay with them as they continue to age and create the conditions for a higher quality of life.

3 Study and Method

The respondent groups were members of three different networks. This study is comprised of three surveys with 32 respondents in the first group, 15 in the second and 16 in the third group which gives a total of 63 respondents. The focus and target of the study is the group of young-elderly. The members of the groups had, as far as we know, no connection to members of the other groups. The first group was mostly retired people who bowl together weekly. We got in contact with the group through a member who was able to give us access. The second and third groups contained two different groups of retired people who play boule together. We got access to the two groups through personal contacts. The reason for focusing on these groups was to find young-elderly who are still physically and mentally active. We are aware that this way of selecting respondents has its limitations as the number of respondents is small

and not all young-elderly are active people. Therefore these three groups cannot be seen as representative for all young-elderly. On the other hand there is an advantage to having a personal connection to the groups as they are more willing to answer the questions and do so in an honest way. Some of them made it very clear that they never answer questionnaires otherwise.

In the three surveys we first asked the respondents to answer some basic questions about their sex, age, marital status, occupation, if they were retired or still working and their level of education. The purpose was to give us a picture of the respondents. The next questions focused on if they have computers and mobile devices and if they answered yes, we then asked them what Internet-services they use. We continued by asking them if they are interested in making use of others' knowledge respectively sharing their knowledge with others through Internet services. Finally we asked the respondents if there was anything they wanted to add or suggest.

Our research was made as an explorative process. Explorative research is designed to observe, describe and document and this involves collection of data to provide a sample and description of individuals, groups and their behaviour [7]. First we made a pilot questionnaire and tested it with colleagues which indicated that some minor adjustments had to be done. Bell and Opie [8] claim that a researcher must be prepared for that things do not always go the way they are intended to go and therefore a pilot study can help the researcher to sharpen the main study. The first survey consisted of 32 respondents. After its completion we made some minor changes to the questionnaire as we noticed that some answers inspired additional questions and a few questions gave us information of little or no use and could therefore be excluded. A few questions were also changed based on the fact that we realized that the respondents were a bit unsure about what we were asking.

In the study we mainly used closed questions. According to Bell and Opie [8] closed questions are those which give the respondents a limit of possible answers. The respondents had to tick in a box for the answer in line with their opinion. The last question was an open question as the respondents were given the opportunity to offer suggestions. Bell and Opie [8] explain that open questions are a form of question where the respondent is free to write their own thoughts and suggestions.

The study was performed by a descriptive method. Bell and Opie [8] explain a descriptive method as one that works with collected data and characteristics of a population to find patterns and thereby to find and explain phenomena.

Bryman [7] explains that while working with research it is of great importance that everything is done to reach a high level of reliability and validity. Reliability is about trust in the way the research is constructed and performed. This means that if the research is done a second time it should produce the same results. Validity on the other hand is focused on whether or not the researcher is measuring what is intended to be measured. According to Fowler Jr. [9] the quality of the sample in a study depends on the size, frame and design of the selection procedures. In the study we have been careful during the operationalization of our research questionnaire in order to reach a high level of validity. We have spoken with young-elderly in our families, among our friends and in our network and have also followed recent media discussions. Our credibility was granted by our contacts which led to high participation and small internal fall-off. Hence we consider our research findings reliable and valid. But at the same time we are aware of the small number of

respondents and that our means of selection has its limitations. Hence the results only represent these particular young-elderly and it is therefore important to use caution when generalizing. A lot more research has to be carried out in order to make the results valid and reliable for the population of young-elderly.

4 Literature Review

In this section we present the literature review. We will start by presenting IS (4.1) and continue with marketing (4.2).

4.1 Information system

Alter [10] divides IS into three main parts; Information, People and Information Technology. These three work together in various combinations. Information can include a variety of formatted data, images, text and sounds. The work by IS can be automated but in the background there are always people working with and in the system and therefore in one way or another affecting the system. Information technology includes hardware and software. Alter [10, p.9] claims that *consequently, understanding information technology is not equivalent to understanding information systems*. Alter [10] claims that people developing IS do not automatically know what the target group needs, wants and values. The author argues that sometimes there is a dichotomy between the developer and the group at which the IS are aimed, and therefore there is a risk that the system will not meet the needs and interests of the target customer. Langefors [11] claims that it is important to pay attention to the human side and therefore people (users) have to be involved in the IS development process. Galliers [12] states that it is important to consider that human beings gather information in order to make decisions and that mobile devices can support decision making. Therefore IS must be designed with the target user in mind and make sense to them. Galliers [13] claim that IS are more or less business systems and therefore have to be dealt with as such. If they are not designed in accordance with the customers' demands, the customers will become reluctant to use them. Markus [14] claims that people adopt IS for the benefits they perceive as useful to them. Halonen and Thomander [15] suggest three main parts for making IS successful;

- System Design, includes System Quality, meaning is it easy-to-use and user friendly, Information Quality, which has to do with whether or not it's useful and up-to-date, and, Service Quality, which focuses on the interaction and has to do with availability, fairness and understanding.
- System delivery includes Use and User Satisfaction where Use concerns, for example, density and timetable, and User Satisfaction has to do with overall satisfaction and how enjoyable the experience is.
- System Outcome has to do with Net Benefits and includes both Positive Aspects like benefits to studies and Negative Aspects like self-guidance.

Bouwman et al. [16] claim that the composition of service is of great importance and that there has to be positive attitudes for innovations in the mobile services industry to meet the demands and needs of the customer. Keen and Mackintosh [17] discuss that value of applications in mobile phones is that they generate a freedom for the consumer. Value, in the form of freedom, means that the customer is not limited by time and space, but rather is able to get information about products and shop whenever and wherever they want. This is a digital service that few physical stores can offer. At the same time, it is important to be aware that people are not always willing to change their habits and to adopt new technologies, something which is discussed by Carlsson [18, p. 189] who claims that:

> *In summary, past history shows that advances in mobile technology can enable the deployment of new services but are in no way guarantees that these services will be broadly adopted. Indeed, as discussed in one of our earlier studies, consumers have often proved reluctant to adopt new services – however fancy the underlying technology might be.*

Keen and Mackintosh [17] argue that it is close to impossible to over-hype the power and potential of m-commerce and wireless shopping. They continue by claiming m-commerce is the next step towards "the freedom economy" as the customers can buy, sell and swap products at any time. Keen and Williams [20] pinpoint the solution by recommending that innovators are always updated on the value changes of the market and put effort into the changes that can make a powerful impact and thereby gain advantage on the market. Rivard and Lapointe [21] claim that it is important to establish the credibility of the message being sent as well as the source of that message. This means that credibility and trust are important in the servicescape since if there is a lack of trust, the customers will reject the digital services offered. Papadopoulo et al. [22] discuss trust in e-commerce and they connect trust to relationship marketing and the servicescape and claim that virtual reality technologies can effectively be useful to shape an e-commerce environment.

4.2 Marketing

Over the years, marketing has been developed, changed and discussed from different perspectives. A lot of attention has been paid to the classic 4P-model, Product, Price, Place and Promotion while at the same time consumer behavior has received a great deal of interest. An area that subsequently received more and more noteworthy attention is Service Management, where over the years theories with a focus on services and trade have been developed. In the Service Management discourse the delivery of service and service processes has also been in focus. Grönroos [23], [24] stresses the importance of a service oriented approach and that the interaction between the customer and the service provider as well as quality and productivity is of great interest. Bitner [25] introduced the Servicescape concept and he defines it as the environment in which the service is brought together and provided and in which

the provider and customer interact, combined with tangible commodities that facilitate performance or communication of the service. Nowadays virtual IS can be added to the servicescape discourse. Mummalaneni [26, p.526] describes the virtual servicescape as *the environment of the virtual storefronts created through Web page design is not unlike the atmosphere of the brick-and-mortar stores with their emphasis on layout, merchandise-displays, lighting, signage and so on*. Vilnai-Yavetz and Rafaeli [27] refer to the aforementioned Mummalaneni and state that an e-service setting can be labeled as a virtual servicescape and will influence the perceptions and feelings of the customer.

Kotler [28] argues about the combination of shopping atmosphere and purchase behavior in which the author discusses how people's senses have an impact on purchasing decisions. Kotler [29] returned 38 years later, to what he wrote in 1973, where he, together with Ravi S. Achrol, discusses the importance of the senses in conjunction with marketing. In the article, Kotler and Achrol [29] discuss something that was not possible for Kotler to address in 1973, which is the Internet. Achrol and Kotler [29, p.38] state:

> *Those of us who grew up in the physical world cannot begin to imagine life as it will be for those who grow up in a digital world. The digital world will offer nearly endless possibilities of shaping life and experiences so that the physical world will pale in significance and may well become a secondary world in which our bodies live wired to a digital reality.*

Ezeh and Harris [30] discuss service and servicescape and argue that the servicescape is important to a service organization and can also be seen as a determinant for the customers as well as the employees. The authors continue by claiming that the design is crucial for a successful servicescape. In a study, Harris and Ezeh [31] point out four variables they claim are important for the servicescape (Fig. 5).

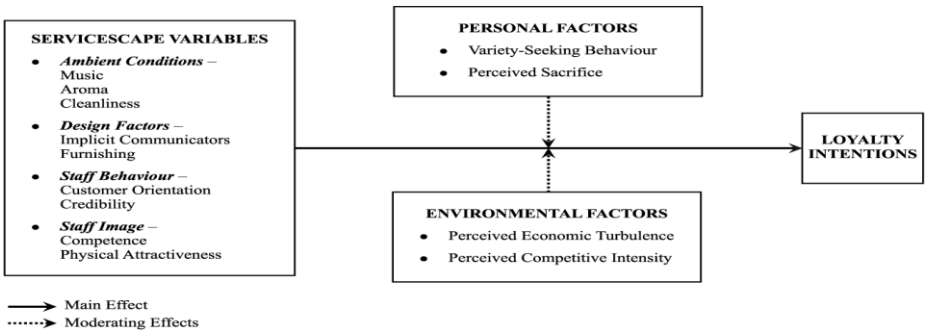

Fig. 5. A conceptual model of servicescape [31, p. 393]

The variables are ambient conditions, design factors, staff behavior and staff image. These variables affect what the authors describe as loyalty intensions which, although

less strongly, will be influenced by personal factors and environmental factors. The authors [31, p. 410], referring to the model they developed (Fig. 5), argue that:

> *All the moderators in the conceptual model were found to be strong facilitators of relationships in the servicescape. Therefore, service managers should take these into consideration when designing the servicescape and implementing the overall marketing function.*

Gummesson [31] claims that it is important to understand the interaction between the service provider and the customer. The interface will be an important part of the servicescape and therefore of great interest for the provider as well as the customer. They will meet in the interaction where the customer will play an important role, irrespective of if the interaction is performed face-to-face, ear-to-ear, e-mail-to-e-mail or by a customer-facing website. Often the services that the provider offers will be produced and delivered more or less at the same time the customer consumes them. Gummesson [31] continues by saying that the networks' role in marketing is clearly underrated. He claims that a practitioner who wants to be prosperous will have to realize the importance of building networks and that marketing is performed and can be seen everywhere in the society. In networks, people share experiences of shopping and service through what is called word of mouth. Consumption has turned out to be a way of living, and technology must be in accordance with the demands and needs of the consumers.

In the service discourse, many authors [20], [23], [24], [29], [32], [34] point out the importance of the customers' role in the process of creating value for the customer. Customer participation constitutes a resource that is reflected in the creation of the service but is also reflected in the fact that the customer interacts within his or her network and thus is also an important marketing channel. Lusch and Vargo [34] argue that there are two important parts of service. The first is, activities, and the second is, functions, and these have to be shaped in a way that attracts and adds value to the user. This way of thinking is underlined by Bouwman et al. [35] who state the idea that mobile service is not just about communicating and being able to be contacted anytime, anywhere. Furthermore the value of the service is of importance. Edvardsson et al. [36] claim that service providers, in their work with the servicescape, have to integrate the customer and move from creating for, to creating with and creating by the user. By integrating the customer it is thereby possible to strengthen the credibility and trust in the service and servicescape. Given that the customer is prepared to share knowledge, Tissen et al. [37, p. 192] argue "…*everybody wants to get knowledge out, but nobody wants to put knowledge in*" and Wu [38, p. 50] claims that "*First, the conduct of the knowledge sharing necessarily involves the interaction of knowledge sharers and learners/.../Secondly, knowledge sharing is a type of social exchange behavior and one purpose of knowledge sharing is to gain knowledge from a current knowledge receiver in the future*." Sharing knowledge is not an easy task to deal with as it cannot be taken for granted that people are prepared to share. As Hislop states, there is a risk with knowledge sharing as a person who is prepared to share might get nothing in return.

5 Findings

This section describes the findings of our study based on the three surveys we conducted. Table 1 shows demographic information for each group, for example of the 63 respondents, 23 (37%) were female. The majority of the respondents, 54 (86%) were between the ages of 60 and 74, and the others were 75 years or older. Over half, 36 (57%) were married. 25 (39%) had finished primary school and 11 (18%) hold a university degree. Of the 63 respondents 52 (83%) had retired from working.

Table 1: Overview over the respondents

Questionnaire	Number of respondent	Sex		Age				Marital status				Level of education				Working	
		Woman	Man	60 - 64	65 - 69	70 - 74	75-	Married	Unmarried	Singel	Living together	Primary school	Gymnasium	Collage	University	Yes	No
1	32	9	23	0	13	13	6	15	10	2	1	13	11	0	8	29	2
2	15	6	9	4	6	5	0	10	0	3	2	5	3	6	1	11	4
3	16	8	8	0	6	7	3	11	1	3	1	7	4	3	2	12	4
Total	63	23	40	4	25	25	9	36	11	8	4	25	18	9	11	52	10

As shown in Table 2, among the 63 respondents 52 (83%) have a computer, 50 (79%), a mobile phone, 16 (25%), a smartphone and 6 (10%) have a tablet.

Table 2: Respondents level of equipment

Questionnaire	Number of respondents	Computer	Mobile phone	Smartphone	Pad
1	32	24	26	8	3
2	15	13	10	6	1
3	16	15	14	2	2
Total	63	52	50	16	6

Finally we asked the respondents if there was anything they wanted to add or suggest. Of the few who responded, one added a wish for simpler digital techniques, a second expressed an interest in services dealing with genealogy and a third had to do with services like Skype in terms of getting in contact with doctors and medical services.

Based on the study we can conclude that there are negligible differences in the answers between them. The answers point in the same direction but that does not mean that the results speak for all young-elderly. Instead we want to state that the results only speak for these groups.

5.1 Use of Internet service

In terms of Internet use, the results (Table 3) showed that of the 60 respondents who answered the question, a majority, 51 (85%) use the Internet and that 9 (14%) never use the Internet. The Internet service usage of the respondents showed that of the 63 respondents, 48 (76%) use the Internet to send and receive e-mail, 39 (62%) for activities in societies and associations (e.g. Bowling club, Boule club), 32 (51%) for news pages (e.g. CNN, BBC), 28 (44%) for information sites (e.g. Weather forecast), 27 (43%) for travel services (e.g. Ticket, SAS), 13 (21%) for health and medical care (e.g. Sensia), 12 (19%) for activities on social media (e.g. Facebook), and 11 (17%) for buy-, sell- and swap-sites (e.g. EBAY) as well as for service at home (e.g. Homecare) and 10 (16%) for planner (e.g. TimeEdit). Finally, in surveys 2 and 3 a total of 22 (71%) out of 31 answered that they use the Internet for bank service.

Table 3: Overview over the respondents' use of Internet

Questionnaire	Number of respondents	Use Internet				E-mail	Activities in assoc.	Sociala network	Service e.g. at home	Travel service	Health and medical s.	Planner	News service	Buy-, swap-, sell service	Bank service	Information service
		Never	Sometimes	Weekly	Daily											
1	32	6	2	3	19	23	17	7	6	15	7	6	17	3		15
2	15	3	5	3	4	12	11	2	0	6	3	2	6	5	9	8
3	16	0	1	3	11	13	11	3	5	6	3	2	9	3	13	5
Total	63	9	8	9	34	48	39	12	11	27	13	10	32	11	22	28

(Note: Bank service only in survey 2 and 3)

5.2 Making use of and sharing knowledge

Table 4 shows the results of the questions regarding Internet service and whether or not the respondents were interested in; i) making use of others' knowledge, ii) sharing their own knowledge with others. The subjects asked about were; exchange of professional skills, traveling, physical training, personal trainer, augmented memory, betting, games, health advice, medical service, safety service, technical support, legal service, employment service, relationship counselling, person matching, education, genealogy and finally planner. In accordance with what the first group suggested, the category bank services, was added to the second and third questionnaire. For each of the questions the respondents could choose between the answers: not at all interested, a little interested and very interested. Based on the questions to do with at what level the respondents were prepared to make use of and share knowledge with others, the study indicates that many of them were not at all interested in sharing knowledge with others when it comes to physical training, personal trainer, augmented memory, betting, health advice, medical services, safety services, technical support, employment services, relationship counselling, person matching, education, bank and genealogy. A few were a little interested and none, one or very few were very interested in sharing knowledge with others about the given subjects. There are some

areas where the respondents were a little more prepared to share their knowledge with others and those were professional skills, where 48% were a little interested in sharing, and traveling, where 56% were a little interested in sharing. Few respondents were very interested in sharing their knowledge with others. There are minor differences in most of the areas, but a pattern is revealed that shows that respondents are more interested in making use of knowledge than in sharing their own knowledge with others. Slightly more interest was shown by the respondents in areas like travel, bank services, medical care and technical support.

Table 4: Making use of and sharing knowledge

		Make use of others				Share to others			
		Questionnaire				Questionnaire			
		1	2	3	Total	1	2	3	Total
Number of respondents		32	15	16	63	32	15	16	63
Professionell skills	Not	10	4	5	19	8	7	2	17
	Little	11	5	4	20	11	5	4	20
	Much	1	3	1	5	1	1	1	3
Bank service	Not		0	0	0		10	2	12
	Little		11	5	16		3	5	8
	Much		2	7	9		0	0	0
Travel	Not	9	0	3	12	9	7	2	18
	Little	9	10	5	24	8	5	4	17
	Much	3	3	5	11	2	1	4	7
Training	Not	10	9	5	24	10	12	5	27
	Little	12	3	5	20	8	1	1	10
	Much	1	0	1	2	0	0	2	2
Personal trainer	Not	20	10	10	40	18	11	6	35
	Little	1	3	2	6	2	2	1	5
	Much	0	0	0	0	1	0	1	2
Augmented memory	Not	12	5	6	23	12	9	4	25
	Little	6	8	5	19	5	4	2	11
	Much	4	0	1	5	2	0	1	3
Betting	Not	17	9	8	34	14	12	6	32
	Little	4	3	3	10	4	1	1	6
	Much	0	1	1	2	0	0	0	0
Games	Not	11	4	2	17	9	9	3	21
	Little	10	8	2	20	10	4	6	20
	Much	1	1	8	10	0	0	0	0
Health service	Not	13	2	3	18	11	9	3	23
	Little	10	9	6	25	6	4	3	13
	Much	0	2	1	3	0	0	2	2
Medical service	Not	12	4	6	22	13	12	2	27
	Little	10	8	4	22	5	1	4	10
	Much	0	1	2	3	0	0	1	1

		Make use of others				Share to others			
		Questionnaire				Questionnaire			
		1	2	3	Total	1	2	3	Total
Number of respondents		32	15	16	63	32	15	16	63
Safety	Not	16	5	8	30	12	11	4	27
	Little	6	7	3	16	7	2	2	11
	Much	0	1	1	2	0	0	0	0
Technical support	Not	12	9	6	27	9	13	3	25
	Little	9	4	5	18	9	0	5	14
	Much	1	0	1	2	1	0	0	0
Legal service	Not	18	7	7	32	14	13	5	32
	Little	3	6	5	14	3	0	1	4
	Much	0	0	0	0	0	0	0	0
Employment service	Not	21	12	11	44	17	13	6	36
	Little	1	1	0	2	1	0	1	2
	Much	0	0	0	0	0	0	0	0
Relationship counselling	Not	18	10	11	39	17	13	6	36
	Little	3	3	0	6	1	0	1	2
	Much	0	0	0	0	0	0	0	0
Person matching	Not	14	11	8	33	13	12	4	29
	Little	7	2	3	12	5	1	3	9
	Much	0	0	0	0	0	0	0	0
Education	Not	14	10	8	32	11	10	4	25
	Little	6	3	2	11	5	3	2	10
	Much	1	0	1	2	1	0	1	2
Genealogy	Not	14	10	10	34	14	11	4	29
	Little	5	2	0	7	2	2	2	6
	Much	3	1	2	6	2	0	1	3
Planner	Not	13	10	6	29	11	13	3	27
	Little	6	3	5	14	6	0	2	8
	Much	3	0	2	5	1	0	1	2

(Note: Bank service only in survey 2 and 3)

6 Discussion

On the Internet and on mobile devices there are a lot of different digital services aimed to attract and add value to people. But have the systems been designed with an understanding of the target group? Sometimes we doubt it. This study indicates that the young-elderly in general have the equipment for being an interesting group for the IS-industry. This study also shows that 43 of 63 (68 %) respondents use the Internet at least once a week (Table 3). The six main areas for which the respondents use the Internet are bank service, e-mail, activities in associations, news service, information service and travel service. This indicates the areas of interest. Langefors [11] and Alter [10] discuss this issue and point out the dichotomy between the people developing the digital services and the target customer. Galliers [12], [13] and Markus [14] state that the human being has to be considered when developing IS. Therefore we claim that when designing IS, the starting point must be an attempt to understand the target group – in this case the young-elderly. When the first step is achieved the next step is to develop IS suitable for the target group. The third step will be to meet the challenge of persuading the group to try the services and to thereafter become a

frequent user. From a marketers point of view the customer meets a servicescape when they are surfing on the Internet regardless of which kind of digital device they use. In accordance with what many authors [20], [23], [24], [25], [27], [28], [29], [30], [31], [32], [33], [34] argue, it is of great importance that the service and the servicescape are designed to meet the demands of the targeted group. But it is not only about developing service and servicescapes in line with the demands and needs of the customer, but also, as Rivard and Lapointe [21], Papadopoulou et al. [22], Mummalaneni [26], Keen and Mackintosh [17,] and, Keen and Williams [19] claim, it is about establishing credibility and trust. It does not matter how well the systems are designed if there is a lack of trust in what the service provider and the servicescape offers.

When servicescapes are developed the designers want them to be attractive for the targeted group. However attraction without values will be of little or no interest to the target group. Therefore designers have to consider what Grönroos [23], [24] and Edvardsson [36] argue about interaction and co-operation and what Harris and Ezeh [30] describe with their variables and factors for building customer loyalty. Lusch and Vargo's [34] two parts, activities and functions, are also to be considered when service and servicescape are developed. Bouwman et al. [16], [35] state that the composition of service in mobile devices is of great importance and Carlsson et al. [18] state that it doesn't matter how well and elegantly the technology is made if the customer cannot comprehend its value and how it can benefit them. Our findings indicate that there is a lot interest in making use of others' knowledge in the areas of, bank services, 9 of 31 (29 %), travel, 11 of 63 (17 %) and games, 10 of 63 (16 %) (Table 4). In contrast there was less interest in sharing knowledge, in the area of travel, only 7 of 63 (11%) were very interested and in each of the areas, professional skills and games 20 of 63 (32%) were a little interested in sharing their own knowledge. Sharing knowledge is, as shown by Tissen et al. [37], Wu [38] and Hislop [39], not to be taken for granted, as people often want something in return for their knowledge and without such can be reluctant to share.

As Harris and Ezeh [31] show in Figure 5, there are a lot of different components for winning the credibility and trust of the customer, and if these factors are not fulfilled the customer will look for an alternative solution to their needs and demands. The service provider and the servicescape will need credibility to attract the young-elderly, but so far only a few branches have been successful. The travel industry, as well as the bank industry, are, from a customer point of view, the leaders in getting their customers to use the services they offer and thereby they have been successful in gaining their trust.

7 Conclusions

According to the above discussion, including findings and theories, we can highlight three issues of importance.

- Servicescape – the interface on the digital devices
- Trust – who is responsible for the digital services
- Credibility – customer familiarity with service providers

For this group of young-elderly, trust and credibility are important with regards to the available digital services within the servicescape. By learning more and knowing the group better the service provider can move from *creating for* to *creating with* and *creating by* the user and can thereby strengthen credibility and trust in the service and servicescape.

The above presented conclusions indicate that the developers of digital services and service providers have to co-operate with marketing practitioners. But co-operation is not enough, they have to learn more about the young-elderly, especially about their needs, demands and values, in order to gain credibility and to earn the trust of this growing target market.

8 Proposal for further research

As shown in this paper, there is a disparity between what the young-elderly demand and need and the digital services provided, meaning that IS developers have to learn more about this target group. Therefore we suggest that more research needs to be done in order to gain more knowledge about the group of young-elderly. We also encourage research on whether or not differences in, for instance, gender, background, levels of education and economic situations would impact the young-elderly group's interest in digital services. In addition to these proposals, we believe that more research on how to earn the trust of the young-elderly and how to build a servicescape that captures their interest is vital.

9 Acknowledgements

The authors would like to thank Professor Christer Carlsson, IAMSR, Åbo Akademi University, Finland, Professor Bertil Hultén, Dr. Leif Marcusson, Dr. Siw Lundquist, Dr. Leif Rytting and Lecturer John Jeansson for insightful and helpful comments and support of this paper. We would also like to thank the respondents for their kindly help with the surveys.

10 References

1. Råberg, M. and Allmér, H.: Young-elderly and digital services. Conference paper presented at the 36th Information Systems Research Seminar in Scandinavia IRIS36, Digital Living, Oslo, Norway (2013)
2. Statistics Sweden, SCB, http://www.scb.se Statistiska Centralbyrån (2013-02-26)
3. UNFPA, http://www.unfpa.org/public/cache/offonce/home/news/pid/12415;jsessionid=A28C515ECB6CB7E7B1D00B640B8A3D6B.jahia02 (2012-10-15)
4. EUROSTAT, http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/ (2012-10-21)

5. Reinfeldt, F.: http://www.svt.se/nyheter/sverige/reinfeldt-tanker-sig-arbetsliv-till-75-ar (2012-11-01)
6. Reinfeldt, F.: http://www.svt.se/nyheter (2013-03-06)
7. Bryman, A.: Samhällsvetenskapliga metoder. Malmö: Liber AB (2011)
8. Bell, J. and Opie, C.: Learning from research – Getting more from your data. Glasgow: Open University Press (2009)
9. Fowler Jr, F J.: Survey research methods. Newbury Park, Sage publ. (1993)
10. Alter, S: Information Systems – A Management Perspective. Reading, Massachusetts: The Benjamin/Cummings Publ. (1992)
11. Langefors, B.: Theoretical Analysis of Information Systems. Lund. Studentlitteratur (1973)
12. Galliers, R D.: in Strategic information management. Galliers, R D. and Leidner, D E (eds.) Cornwall: Routledge. (2009)
13. Galliers, R. D.: in The Oxford handbook of management information systems Galliers, R. D. and Currie (eds.), W. L. Oxford: Oxford University press. (2011)
14. Markus, M. l.: Conceptual challenges in contemporary IS research. Wellington: Communications of the association for information systems. Vol. 3 Article 4. (2000)
15. Halonen, R. and Thomander, H.: Measuring knowledge transfer success by D&M. University of Ireland Galway, Ireland. Sprouts: Working papers on information systems, 8(41). http://sprouts.aisnet.org/8-41 (2008)
16. Bouwman, H. Carlsson, C. Walden, P. and Molina-Castillo, F.J.: Trends in the mobile services in Finland 2004-2006: from ringtones to mobile internet. Bingley: Emerald (2009)
17. Keen, P.G.W. and Mackintosh, R.: The freedom economy – Gaining the mCommerce edge in the era of the wireless Internet. Computerworld. Berkeley: McGraw-Hill (2001)
18. Carlsson, C.: Editor's introduction ECRA – Special issue on mobile technology and services. Electronic Commerce Research and Applications: Elsevier (2006)
19. Gummesson, E.: Extending the service-dominant logic: from customer centricity to balanced centricity. Academy of Marketing Science. London: Sage Publ. ltd (2007)
20. Keen, P.G.W. and Williams, R.O.: The value path – Embedding innovation in everyday business when the customer makes the rules. Fairfax Station: Business Futures Press (2012)
21. Rivard, S. and Lapointe, L.: Information Technology Implementers' Responses to User Resistance: Nature and Effects. MIS Quarterly Vol. 36 No. 3 (2012)
22. Papadopoulou, P. Andreou, A. Kanellis, P. and Martakos, D.: Trust and relationship building in electronic commerce. Internet research Vol. 11. No. 4. MCB University press (2001)
23. Grönroos, C.: Service Management och marknadsföring – en CRM ansats. Malmö: Liber (2004)
24. Grönroos, C.: In search of a new logic in marketing: Foundations of contemporary theory. West Sussex: John Wiley & sons (2008)
25. Bitner, M.J.: Servicescapes: The Impact of physical surroundings on customers and employees. Journal of Marketing, Vol. 56 No. 2 April (1992)
26. Mummalaneni, V.: An empirical investigation of Web site characteristics, consumer emotional states and on-line shopping behaviors. Journal of Business Research. (2005)
27. Vilnai-Yavetz, I. and Rafaeli, A.: Aesthetics and professionalism of virtual servicescapes. Journal of Service Research. London. Sage Publ. Ltd (2004)
28. Kotler, P.: Atmospheric as a marketing tool. Journal of retailing. Vol. 49, Nr. 4 (1973)

29. Achrol, R.S. and Kotler, P.: Frontiers of the marketing paradigm in the third millennium. Journal of the Academic Marketing Science. London: Sage Publ. Ltd (2011)
30. Ezeh, C. and Harris, L.C.: Servicescape research: a review and research agenda. The Marketing Review. Helensburgh Argyll: Westburn Publishers Ltd (2007)
31. Harris, C.H. and Ezeh, C.: Servicescape and loyalty intensions: an empirical investigation. European Journal of Marketing. Bingley: Emerald (2008)
32. Gummesson, E: Many – to – many marketing: Från one-to-one till many-to-many I nätverksekonomins marknadsföring. Malmö: Liber. (2004)
33. Vargo, S.L. and Lusch, R.F.: Service-dominant logic: Continuing the evolution. Academy of Marketing Science. London: Sage Publ. ltd (2007)
34. Lusch, R.F. and Vargo, S.L.: Service-dominant logic: a necessary step. European Journal of Marketing. Bingley: Emerald (2011)
35. Bouwman, H. Carlsson, C. Walden, P. and Molina-Castillo, F.J.: Reconsidering the actual and future use of mobile service. Heidelberg: Springer Verlag (2008)
36. Edvardsson, B. Ng, G. Zhi Min, C. Firth, R. and Yi, D.: Does service-dominant design result in better service system?. Journal of Service Management Vol. 22 No. 4 (2011)
37. Tissen, R. J., Andriessen, D. and Lekanne Deprez, F. R. E.: Creating the 21st century company: knowledge intensive, people rich – value-based knowledge management. Nederland BV. Addison Wesley Longman (1998)
38. Wu, W.: To share knowledge or not: Dependence on knowledge-sharing satisfaction. Social behavior and personality (2013)
39. Hislop, D.: Knowledge management in organizations – a critical introduction. Oxford University Press (2005)