



www.silhouette-project.eu

SILHOUETTE

USING NOVEL INFORMATION
AND COMMUNICATION TECHNOLOGIES
FOR THE SUPPORT OF ELDERLY'S ACTIVE
PARTICIPATION IN THE INFORMATION SOCIETY



POZNAŃ SUPERCOMPUTING AND NETWORKING CENTER

ul. Noskowskiego 10, 61-704 Poznań, Poland

phone: (+48 61) 858-20-01, fax: (+48 61) 852-59-54

e-mail: office@man.poznan.pl, www: <http://www.man.poznan.pl/>

PROJECT COORDINATOR



PARTNERS



European Union
European Regional Development Fund



Copyright © 2012 Innopark Programmes Oy

2012-01-01

Version 1.1

ICT-based Support for the Elderly in Kanta-Häme: Stakeholders' view

Mika Anttila

Innopark Programmes Oy

Table of contents

1. INTRODUCTION	5
2.1. SUPPORTING THE ELDERLY COMMUNITIES IN THE REGION.....	7
2.2. USAGE OF ICT-BASED SOLUTIONS IN SUPPORTING THE ELDERLY.....	9
3. NATIONAL, REGIONAL AND LOCAL PROGRAMS AND STRATEGIES OF SUPPORTING THE ELDERLY	11
3.1. PRACTICAL IMPLEMENTATION OF PROGRAMS	11
3.2. NEEDS CONCERNING CREATION AND IMPLEMENTATION OF PROGRAMS ENABLING WIDER USAGE OF ICT.....	12
4. BENEFITS AND BARRIERS IN IMPLEMENTING ICT-BASED SOLUTIONS FOR SUPPORTING THE ELDERLY	14
4.1. BENEFITS.....	14
4.2. BARRIERS	14
5. POTENTIAL OF THE REGION TO UTILIZE ICT-BASED SOLUTION FOR SUPPORTING ACTIVITY OF THE ELDERLY	16
5.1. THE SIZE OF THE REGIONAL MARKET.....	16
5.2. THE R+D AND INNOVATION POTENTIAL.....	17
6. RECOMMENDATIONS OF REGIONAL STAKEHOLDERS	19

1. Introduction

Kanta-Häme is one of the historical regions in Finland and is located in the southern Finland, close to the largest cities of the country. The region lies only about an hour's drive or train trip from the capital and other cities of the southern Finland. The Häme region comprises of small and medium-sized towns and villages and the network formed by the services provided by them. Kanta –Häme consists of 16 municipalities/communities and the population of the are is over 168 000.

Kanta-Häme, like the rest of the country is aging fast. By the year 2020 in Kanta-Häme the number of people +65 is estimated to be about 37 000. Moreover, of these people the number of elderly in the gategory +85 is estimated to be about 33 per cent. When looking towards the future the number of elderly will increase. Moreover the amount of elderly + 65 is not only ingreasing in absolute numbers but also with relative numbers. This means that the expenditures in social- and healthcare will increase in the future.

At the moment regional joint health care co-operative body is taking care of the specialiced tasks of the healthcare systems (these include surgery and other needed operations). For the elderly point of wiew most services are received from the localy managed basic healthcare, social or elderly care instititutions. Municipalities/ Communities are at the moment running their own basic healthcare systems. Some of the communities are also using co-operative bodies with each other to take care of these tasks.

Most of the communities have their own elderly care and social affairs department that will take care of the needs of the elderly people. Arrangements differ a little bit from community to communiti. As the number of elderly will increase so will the pressure to take care of them in the most effective and custom –oriented way. This will poses a significant challenge to leaders of the municipal services.

For this study interviews were conducted from the basis of Silhouette’s questionnaires that were finalized at 2011. For the study 30 people opinions were collected. Interviews took place from September to December 2011. All the interviews were done by Innopark Programmes Oy.

The interviews were divided to four categories. These categories were:

- Public administration 12
- Care providers 12
- Companies 5
- Academia 1

All the categories had their own questions. First category interviewed was public administration stakeholders. This category consisted of elderly care managers, directors of social- and health services and people working with elderly care technology in municipalities. Last group (Academia) was taken within the category because they are key player in affecting services and ICT solutions for elderly.

Care providers and companies were selected from the basis of serving elderly in the region. Companies included also those companies, who work with elderly ICT or as retail traders of elderly ICT products and services. Most

of the care providers work as foundation or independent association form, which is in some way typical to Kanta-Häme area. The people who answered questions were at the leading role, working either as a manager of the organization or as a managing director of the organization. With companies one exception was made: marketing managers, who were in charge of selection, were also included. From every company or care provider organization there was only one person interviewed.

With academics, only one interview was conducted. At this point interviews had reached a saturation point, where no new knowledge was found.

All communities inside Kanta-Häme area were represented at the public administration category and care providers category. When looking at companies there were more difficulties finding ICT companies from Riihimäki area and therefore no suitable companies were found from Riihimäki area. With academic Häme University of Applied sciences is regional organisation, representing the academic.

2. Senior-oriented activities

2.1. Supporting the elderly communities in the region

Support for the elderly in communities and in other organizations is clearly present in the area of Kanta-Häme. Although regional administration does not give support directly to elderly, they offer strategies and guidelines that support the actions of communities and other service providers (mainly through regional welfare strategy). Regional administration also supports the elderly by working as an intermediate and administrator for projects that are targeted for social and health issues.

When looking at the community level actions, local communities have a strong role in supporting elderly. The support is in practice mainly done through service provision. This means that communities are either buying or directing elderly to buy services from selected service providers. Services that are used to support elderly consist of housing services, food services, discounts to public sport facilities, cleaning services and services related to safety. Most of the services have a direct link to better and healthier life.

Communities also finance directly, or can act as a co-financier, in different kinds of projects that support the community of elderly. Usually these projects have a service oriented view. They improve either the structure of services or develop the service itself that elderly are entitled to. But these actions can also create new services that are missing from the area. The role of community can vary from project to project. In some cases community can do everything by themselves. But usually communities have different partners that operate some parts of the project.

Support is also present in the actions of associations and foundations. Private sector service providers give their support for the elderly by setting up their business and acting as part of the service provision and as a part of a service structure. But as the reader can imagine, support comes in the case of private sector service providers, in the form of business and service selection.

In general these actions can be categorized in three different groups: First actions that include ICT support for the elderly, where ICT is the main theme. Second are those actions that include ICT as an element of development, but not directly linked to elderly. And finally there are those actions that do not include ICT as an element of support in any way.

Actions that include ICT as main theme

The first category of development that is directly supporting the elderly in ICT has been done mainly in the field of safety, but there are other supportive actions also. For example MenuMat machine that can prepare and oversee the elderly cooking their own food has gained popularity. At the moment two communities have provided this machine to elderly as an option to support the quality of life for some time now. Another example is Sound Vitamins machine that is used by public sector organizations, associations and private service providers to activate people in group meetings. At the Riihimäki region there has been some testing and a pilot project of interactive care tv. One interactive care solution called e-Santra, developed at Hämeenlinna University of Applied Sciences, has also been tested at the area. And there has also been projects that are completely targeted to test new technology and integrate several technologies to solve different problems, including social isolation.

An example comes from Forssa, where Demo-project worked as surface to integrate new safety phone solutions to other supportive elderly solutions. There is also the everyday technology to support the day to day living: water alarms, cooking alarms and medication dispensers that will help people to survive from their everyday life. What is noticeable is that most of the supportive ICT systems concentrate on safety at home.

Actions with the element of ICT

Second category consists of actions that include support for the elderly that includes the element of ICT development, but ICT is not the main theme of development actions. In this category most of the interviewed saw that the basic starting point for the elderly support in communities comes from the national regulation. This regulation is stated from the Ministry of Social and Health department and is overseen from government's regional administration. This includes quality guidelines as well as other instructions that guide the care for elderly in regions and municipalities. The view of the Ministry has been to shift the balance of elderly care to homes from institutional care (away from elderly homes, assisted living has arrangements to peoples own homes). This shift of balance has prompted some national, regional and community development projects.

National guidelines and instructions make only a part of the framework. In communities there is a strong emphasis towards customers and this customer oriented thinking. This affects directly to provided services and the support that elderly face. Services are designed in the pressure of these two components, guidelines from government and customer needs (you could always count money or the lack of it as the third the third component). This pressure makes variety to services between communities. Major part of the development related to elderly support is done to develop the service structure. For example Janakkala community has taken into action ICT-system that will store information on patients into digital form, is easy to use and available to workers all the time, even from the customer's home (with the help of laptop computers). This has changed a lot of traditional work for elderly care and support.

One of biggest development projects was the project called Ikäkaste which is divided into regional and then again to community level subprojects. The project was run community based, linking the nonprofit companies/organizations to coordinate the actions. In Kanta-Häme region this subproject was called Polkka and it has regional and community emphasis. Polkka project is a good example of a project in second category in many ways. The focus is on developing elderly support. In this project the ICT is present. But the role of the ICT is not directly linked to elderly in a way that they would be the final users of ICT. The project has a indirect link to ICT's supportive role. For example in Forssa and Hämeenlinna regions the aim has been to change service structure, to create a permanent development structure for elderly services and to create a strategy of ageing for communities. As a result of this project, for example Forssa region has now a technology expert in elderly care. The Polkka –project has continued by the name of Pitsi from the 2012.

The development in private service providers has also been similar. Most of the service providers have been investing to improve their service structure and processes. These projects are part of the organizations HR or accounting resources but they have a direct link to elderly as more easily managed invoices, better resourced staff or better reservation possibilities to use services for the elderly.

Actions without ICT element

Elderly in Kanta-Häme region have also support that does not include direct ICT support. At the moment part of the services to elderly come from public sector or from associations/foundations but private sector has activated to provide services also. Public sector usually controls the service provision through outsourcing in the fields of homecare and assisted living solutions. Elderly have the right to choose their service provider by buying their own services. For example the housekeeping is one area where private providers have operated for long time.

In Kanta-Häme region there are also other services that are provided by associations and foundations. Local Memory association is providing different services to people with memory sickness and also to their aged relatives that are taking care of the patient at home. Services are also provided by associations of pension beneficiaries which have different kind of services from knitting clubs to computer courses. Care providers can also arrange voluntary based activities. One example is Pysäkki that is operated almost entirely by volunteers. Pysäkki is managed by Hämeenlinna protestant church together with the town of Hämeenlinna but the activities and services are done by volunteers in organization.

In recent years there have been attempts to activate voluntary work to develop the support for elderly. One particular project in Hämeenlinna area is supporting elderly to activate them to exercise is a project called Voimaa vanhuuteen (free translation is Power to Old Age). The idea is to create voluntary workers from the same age category as the target group and activate senior citizens to exercise. Also Creator funded project REKO, which combines voluntary work, student practices and elderly support has been a success story that will continue as an ongoing practice after the project. The idea is to activate students to gain experience from elderly work and at the same time visit elderly and activate them to break the social isolation.

2.2. Usage of ICT-based solutions in supporting the elderly

The usage of ICT -based solutions in supporting the elderly varies from community to community. Some communities are still using only safety phones as the only supportive ICT -element. This is partly because of the operative environment but according the interviews it also comes down to question of what customers want and can use. The operative environment does not allow the services delivered by using for example broadband connections because all the customers do not have them or they do not want to use services that are operated entirely by using ICT. And some customers or their relatives do not want services delivered by using ICT -based solutions because they do not know how to use computers or they think that the customer needs direct contact with the caretakers .

The most popular ICT -based solutions in Kanta-Häme area is safety phone. At the moment all of the 11 communities are using it to guarantee the safety of the elderly at their own home. Safety phone services are in many communities outsourced as a whole or partially. In some communities where the service is completely outsourced a private company will operate all parts of the system: products, emergency calls reception and sending help to patient if needed. As a part of the safety phone system there are products that can be connected to safety phones: firealarms, fall detectors and door systems that will monitor the patient moving in and out from the home. In many cases communities grant the safety phones to elderly who will need it. This

usually is linked to analysis of elderly's needs and capability to pay from the service. Practices vary from community to community. In some cases community can even pay the whole service for the elderly.

Another supportive technology tested in Riihimäki area is Interactive care TV. Interactive care tv can be used in many ways. It has videoconference possibilities, remotely controlled archive where video or music or rehabilitation instructions can be stored. To work Interactive tv solutions needs a broadband connection.

One supportive solution is MenuMAT machine. The MenuMAT machine is designed to help elderly to heat up their own food, which is considered important among elderly. This will give more time to elderly to do other things also. The idea is, that elderly is no longer dependent of food deliveries that are done every day. Also popular product is Sävelsirkku, in English the Sound Vitamins machine. The idea behind this product is to raise memories and activate people to remember and share their thoughts and experiences. Sound Vitamins can be used for example to hear certain audio records or to watch pre-recorded programmes from archive. Archive has a wide variety of pre-recorded files.

In some communities in Kanta-Häme areas is also available ICT –literature courses to elderly to support the use of computer. These courses are usually arranged by association or private organization. These courses have been very popular among elderly who cannot learn as fast as young people. Usually the teaching is adapted to participants needs. The idea behind these courses is to give elderly more possibilities to manage their daily lives. For example banking services can be for the most part done through internet which is more easily to elderly than go to bank to pay invoices . At the moment communities are also started to provide information of services through their websites. From there elderly this means that they can have instructions how to certain services work or to book their services from web. But these websites are at the moment rather rare. Most of the services are in general use, not specially targeted to elderly. Communities have also provided computers to libraries where everybody can read their email, surf on the internet and use computers on their own time. Some of the volunteer organizations and private service providers have also arranged computers to their facilities.

As ICT based technology is in Kanta-Häme centered at the moment around safety issues it is not a surprising that there is a large amount of technology that is trying to prevent accidents happening at home. This technology is mainly available to elderly from the open market, but according to interviews many communities are recommending the use of such equipment to customers. If the certain terms are met, there can be a possibility that community can pay for machine.

3. National, regional and local programs and strategies of supporting the elderly

3.1. Practical implementation of programs

At the national level, many of the interviewed stated that the practical implementation of programs follow the Ministry of Social and Health Guidelines for Quality that were published in 2008. These guidelines state that it is possible to use ICT technology” as a part of helping elderly to survive at their own in an ethical manner”. At the same time many of the stakeholders stated that the regulation comes from many guidelines and laws and this creates sometimes unexpected obstacles for wider use of ICT technology. One example are laws that regulate the use of patient information and the reasonable use of this information. In some cases private and public organizations are gathering the same information and documenting it to two separate information systems.

The national Ikäkaste –project has been implemented and the subproject Polkka ended at the Kanta-Häme region at the end of 2011 (November), to be followed by another Ikäkaste 2 project. Polkka can be seen as a regional program. Although Polkka did not have a direct link to use of ICT technology, the technology aspect was present in developing new service structure. The implementation of Polkka project was done through community’s personnel. Project Polkka is still continuing its work through Ikäkaste II –program. At the regional and community level the new project is called Pitsi and it started working basically from the beginning of the 2012, continuing the work of Polkka. Pitsi program has a strong emphasis on technology. Technology is seen as crossing two main themes, which are 1) customer-oriented services in the elderly services and 2) elderly’s counseling, service steering, assessment of service needs and welfare and health advancing services. The role of the technology is seen as supportive.

The Polkka project was seen the only project implemented in every community. Some of the stakeholders mentioned also other programs that were implemented. One of these is the digitalization of patient history. Some of the interviewed stakeholders referred also to Kanta-Häme regional welfare strategy which enables the use of technology as part of the service provision. Although ICT based support is in the welfare strategy at the regional level it has not absorbed to community strategies as much as stakeholders would have needed or wanted.

Local strategies has also played a great part in supporting elderly with ICT technology. As a result of the Polkka project every community in Kanta- Häme have now a strategy for elderly care. According to stakeholders these strategies take into account some of the technology aspects but are usually "written in a way that almost everything is possible". Some interviewed stakeholders commented that strategies, because of this reason, cannot be seen as supportive strategies. But at the moment strategies are evolving and in many cases the time of the first strategy period has not ended. What was found interesting is that some of the communities have found co-operative lines in implementing strategies. For example Forssa region (5 communities) have taken joint actions in the field of ICT technology.

What is missing from the implementation of programs is the wider use of for example TEKES development funding (Fund for technology and service development). Some of the communities have tried to apply funding from the TEKES social and health related programs but the success has not been good. Also there were no mentioning of other program funding (for example SITR, the Finnish Innovation Fund, which is a national multi sectoral funder of development projects).

3.2. Needs concerning creation and implementation of programs enabling wider usage of ICT

What can be seen from the answers of interviewed is that in many cases local strategies are understood to be too wide to support clearly the use of ICT technology as part of service provision. In many local strategies there is documentation that ICT technology should or can be used to create services and to improve elderly support. But when the interviewed have thought about this option or have tried to implement it in practice they have faced problems. The problems rise from the fact that ICT –technology is merely an option to carry out required actions. The stakeholders wish to have more precise decisions of where and in which cases the ICT can be used and when it cannot be used.

Another problem is funding of ICT –services. ICT –services is an option that has no direct funding and the money needs to be taken from other activities. This creates problems because the possibilities to test different kind of services is not possible and the investment is away from other services. Implementation and creation of new services should have money reserved in those actions that are stated in strategies.

Interviewed also stated about the future program creation. Future programs should be concerned more about instructing how to use ICT in supporting elderly. This includes how to use ICT –based products (both end users but also the personnel in elderly care) but also the recognition of benefits of using ICT in supporting the elderly. Some of the stakeholders mentioned that especially the care personnel in some cases do not know how to use ICT in the way that it will be supportive for the elderly. Another thing related to content of futures program is safety. The need for out of home safety is increasing and it should be taken into account more effectively.

As the fourth registered need stakeholders asked for a united vision in developing ICT based solutions for elderly. This referred to regional joint co-operation in a way that some technologies could be set up as standards for development. Right now communities and service providers are too small to create standards because purchases from manufacturers are too small. This will raise the needed investment and create uncertainty to investment decisions. If there would be a common vision in the Kanta-Häme region this would probably lead to better implementation and development of programs and wider use of ICT –based solutions. And also to larger jointly handled purchases that would be more cost efficient to communities and end users.

All the stakeholders took it as self-evident that in the future programs should somehow implement ICT –based technology. ICT technology is seen as a possibility at stakeholder level. At the same time there was a little bit of frustration on the air because the progress has been sometimes slow and taking advantage of ICT –based technology has become some sort of a barrier to cross.

The implementation of programs is also a problem for service providers. At this point private service providers stated that public sectors should either let the private sector to take more part at the programs with private service providers or either be co-financers of their programs. ICT –projects tend to cost money and take a huge amount of time which will be a problem for small businesses. Especially if the development is started from the idea or concept level.

4. Benefits and barriers in implementing ICT-based solutions for supporting the elderly

4.1. Benefits

Interviewed came up with three different benefits that will follow from the implementing ICT –based solutions for supporting the elderly. First there are the benefits that come from using ICT as a tool for offering services to people. This will save time. When carepersonel does not need to travel as much as they need to do now, they have the possibility to give more time to elderly. This will have a positive effect also customers because they have the possibility to have time more with careproviders.

Second, the use of ICT based solutions creates less costs. This does not mean that there would be significantly less human resources costs although some of the interviewed ICT –companies gave signals to this way. From the viewpoint of public and private service providers the idea behind the comment is that there will be less travelling and the efficiency will increase. Also ICT based solutions will affect in another way to elderly. As elderly will be increasingly living at their own home, they will need to be contacted more. This is especially the case with people who have disabilities moving out of their own home. Through exploiting ICT solutions the time spent with other people will increse. Elderly can have more contact to people and more frequently. A huge difference is made, because the caretakers do not need to physically be at the same space with the elderly. Travelling time can be spent with the elderly. This will lead to more social contacts and will prevent them becoming in such a poor state that the only option is to move to assisted living arrangements. And again, this will save costs of the public sector and will give business opportunities to private sector.

Third, by using ICT –based solutions to support elderly the service itself can be more customer –oriented. By using ICT the service itself can be tailored according to customers needs. This will create severall benefits to customers. Social contacts can be increased, rehabilitation and training sessions can be done without coming at the home of the elderly (or elderly coming to certain place).

All the stakeholder groups had a almost unified and shared vision about benefits. The usage of ICT based solutions cannot replace in any way the personal care that is given face to face for elderly. Some of the stakeholders specified that it can replace some of it, but not all. Right know ICT cannot replace the need for direct social contact but it can be used as a complementary way of service to brake down the isolation of elderly.

4.2. Barriers

All the interviewed named some barriers for using ICT to support the elderly. Although some of the interviewed felt that as we are only at the beginning of using ICT as a tool for elderly care it is still too early to say for certain what are the benefits and barriers of ICT usage.

One thing was common to all of the answers. Elderly’s ability to use ICT is the most important factor that will determine weather ICT can be used with the elderly. Some of the interviewed felt that that the ICT services

should be started as early as possible so that when elderly capacity to learn new things is decreasing would have all the skills to take advantage of new technology. This means that the service provision should start in a quite early stage. And as an addition, some interviewed raised also the question of ICT training. If for example studies or independent training(ICT course or similar teaching) is needed, this should take place as early as possible . This problem will probably disappear or at least shrink when the new generations are entering as service users.

One barrier was seen to take place in elderly's home. Some of the private service providers thought that one specific barrier is the amount of computers (and in this case also the broadband connections) that elderly have. In some places there is a lack of computers or the elderly does not even own a computer. This creates a problem to elderly and the service provider when there is no way of contacting the elderly. Related to this is also the costs of using ICT solutions. Costs were seen quite high from the viewpoint of service providers and elderly. For service provider this means an investment to new technology. And for the elderly who do not have broadband connections or computers this means also an investment, which will come on top of the other costs, for example safety phone.

Another barrier for using ICT is seen at the carepersonels capacity to use ICT equipment. This problem is related to poor ICT capabilities that among the people who are taking care of the elderly. If the carepersonel cannot instruct the elderly they will soon lose interest to use new technology. The problems with carepersonel is also seen at the level of attitudes towards the use of ICT. Professional identity in many cases is build on the relation between caretaker and patient. This relationship is understood as close personal, face to face contact, without any assisting technology. In this framework it is understandable that attitudes towards ICT –technology is negative and all the changes will create .

5. Potential of the region to utilize ICT-based solution for supporting activity of the elderly

Answers that were related to potential advantages of ICT based solutions in Kanta-Häme region were divided in to two opinions that were opposite. Some stated that Kanta-Häme has good possibilities to utilize ICT based solutions for supporting elderly. Others stated that region is not ready to use ICT as way of delivering services to elderly. Those who had a negative view for ICT services justified their view by saying that the elderly cannot use computers and they need so much help that it will not work. Others who think the area is ready for large scale use of ICT based support stated that it would be a possibility. Computers can always be found, even from the library.

Some care providers also commented that if services will be provided through ICT based solutions this will need also money. Setting up ICT based services in large scale is a big change especially for care personnel. This means that care personnel will need training in basic ICT competencies in order to cope with a new way of working. Also investments in technology were seen quite substantial. From the viewpoint of entrepreneurs this usually means a long commitment and investment to existing technology. This can be in some cases too risky for small businesses. Therefore some care providers stated that the ownership in these projects should be located to community.

From the viewpoint of the companies, region has already potential to utilize ICT –based solutions. But this comment comes with reservations because from the viewpoint of companies the potential is not completely realized. By using ICT –based solutions, elderly could make their lives easier. Networked services could provide for example people with disabilities an easier access to community’s services. In general network services could provide elderly more ways to be part of the society and to help them spent a longer time at home before moving to different housing solutions.

5.1. The size of the regional market

Companies providing ICT based products and services saw the size of the regional markets in general quite modest. The demand for products and services were seen quite low at the moment. According to companies this is due to three particular reasons. First, people are not aware of the products. Some products, like safety phones, are known from the past. They have had users for a decade. This will increase the awareness of the product and will lead to better demand. But this has not happened yet with new technology in a way that some products or services would have the same amount of demand like safety phones have. ICT technology has not integrated to public services the same way as the older technologies have done.

Second, the people have not recognized the need for the product. Elderly as consumers are in many cases thinking that the product or service itself does not benefit them in any way. Partly this is a question of culture and consumer habits that are already learned. Most of the elderly have spent their lives saving their money and hiding their needs. This leads to situation that they will not change their habits and there is no need for new products and services.

Third, elderly themselves are not used to taking advantage of services. This reason applies not only for the elderly but for generations from the aged 50+. Although there has been some progress in the use of services something is still missing. Finnish tend to be self-made men and women who think they can do all by themselves. And on the other hand save money by doing something by themselves.

All the companies have recognized the size and the potential of the market for elderly. Elderly are seen as active consumers and size of the market is seen potential and interesting. As the market grows, more elderly will come to markets with more money to spend and more different demands to fulfill. This will, according to interviewed, increase the size of the market and give more possibilities to ICT-companies.

In some answers from the companies that were providing ICT-services, the market group was also seen hard to handle. This means that elderly as a segment are not congruent with needs. The needs of elderly vary a lot from person to person and this means that products and services can be difficult to design according to these needs. Another point is that elderly in may need more service than other segments and this will lead to too expensive services. The problem with ICT-services and products with elderly is also a problem of lack of information. Elderly as customers tend to be modest or unaware of what they can have.

Some companies see that the markets are currently at the right level. There is still room at the market for new entries, but more important question is that company needs to have a good and finalized product or service. As one of the interviewed commented:

"Your product or service needs to be very simple. It needs to be so simple that elderly can understand what they are buying. They need to see the benefits right away. But it also needs to be of good quality."

The simplicity of the product or service came also up in the answer of public officials. Some public officials said that elderly are not aware of the possibilities that ICT-technology offers. This means that the benefits of certain machine or service that elderly will have needs to be explained in detail. In a way this is a question of marketing. As the needs of the elderly are different it is hard to present commodities that will fulfill only one need. Safety phones for example fulfill the need of help in certain cases. But the reason for this need can be different (the range can be from heart diseases to hip operations).

5.2. The R+D and innovation potential

Companies reported that possibilities for research, development and innovation are quite low. Most of the companies that were interviewed are quite small and therefore they do not do development work that would be based on research. Companies that were bigger ICT companies have not thought of this option, although this option is not completely closed. The lack of R+D+I work is because of the costs, network for R+D+I and chosen place at the value chain.

When looking the potential of the region, almost every company told that the reason for not doing any R+D+I work is profitability. Research based development is perceived to be too expensive. Research process is perceived to be too long. Therefore companies see research based development costly and unprofitable. This leads to situation where companies are not actively looking for research based development projects that are done with a research institute. Research based development is also a strategy question. Some interviewed

companies lined that they do not conduct research with research institutions because they are too small companies to take risks with long development processes.

Another reason for not using the potential through R+D+I processes are the existing networks of R+D+I. Most of the interviewed stated that research and development work is usually done between large ICT -companies and research institutions. This automatically will push small and medium sized ICT companies out of the research and development work that could be suitable for these companies. This does not mean that there would not be institutions to work with. Local University of applied sciences gives possibilities to local companies to do research based development and innovation work. HAMK School of Applied Sciences has several sectors that could be beneficial to companies developing and innovating new products to elderly. These include social- and healthcare sciences, design science, technical (information and communication) sciences and business sciences. Wide range of education combined to research gives possibilities to companies who are interested of research and development.

ICT –companies at the region also sell their products to customers directly or are working as a retail trader for somebody. This means that companies have already a close connection to customer’s needs and desires. Usually company is in direct contact with customers at end of value chain, either by selling the products or selling and manufacturing it. This reduces the need for research based development because the information can be collected directly from the customer. This also means that most of the development work is user driven and small scale development. Companies can improve their business by doing small changes to either their services or to their products and not by inventing completely new products.

From the regional point of view new emerging ICT products for elderly are not especially needed. But from the innovation point of view the question is at the moment of taking advantage the present solutions. In some interviews companies stated as their opinion that the present solutions are not working as they should be and communities are at the moment organizing them to take advantage of their full potential. After this is done it is time to look at new possibilities and try to integrate different solutions to one baggage and bring new solutions to market.

From the viewpoint of care providers the innovation potential is very low. At the moment research and development activities are targeted to other issues. One barrier that affects the innovation potential is confusion. This confusion is related to ICT –equipment and the futures selected techniques and standards. Care providers do not know where to invest and what is the proper solution for elderly. This creates a situation where care providers are willing to test ICT solutions but will not take them as part of their service selection. Care providers still see ICT services as part of the future.

As a conclusion Research, development and Innovation potential is not significantly high at the area. Companies are not willing to develop new products or services. The innovation management system and financing of innovations can be taken used, but risk for taking such a steps are too high for companies. Also at the national level all most all the companies interviewed are small or medium sized businesses which limit the suitable partners.

6. Recommendations of regional stakeholders

Many of the interviewed companies saw that region's communities could help the market's by issuing voucher's for elderly. By this the interviewed ment that there could be some sort of allowance for buying ICT-equipment or services that would promote the use of different products. This voucher would help the elderly purchase ICT - based products and services that could be used as part of the service. According to interviewed, this would lead to better support for the elderly, also from viewpoint of community service..

By issuing vouchers, communities can leverage the investment that elderly will make to technology. But some interviewed saw that at the moment technology is already defining care processes in a wrong way. By this they mean that some of the technology that is used limits the natural care processes, because the use of technology is hard to use or requires special skills. One example of this is the use of patient information system that lacked a long time a possibility to remote use. This led to a situation where homecare personell needed to come back to office to make the required information registrations. This time is taken off out of the fieldwork with customers.

Another point that is raised in the interviews is the question of isolation. What this means is that if services are provided only through ICT based system, people will be more isolated than before. Isolation can increase, if the patient cannot see any care personnel face to face at all. This practically means that people would use only ICT systems to receive services. This situation is in theory possible and would lead to even more severe isolation than before. If technology will affect services in a way we have envisioned, the worst case scenario can be that elderly will see people face to face only when the food delivery is taken to house of elderly. This can be for example once in two weeks period.

Two interviewed raised the question of supporting elderly to use ICT based services. Many of the current strategies do not recognize elderly at all as a user of ICT services. Strategies present ICT as one option to organize services but they do not support elderly to use ICT or allocate any money to this support. And very little support is also allocated to service planning. Another stakeholder who works as community official also had a comment that was related straight to strategy from the viewpoint of end user. Should communities build their strategies in a way that helps service users find ICT services. In this model role of the community is to help elderly find these services. Or should strategies be build so that it will force end users to use ICT services from a certain list that is "put to their hand? "

Many of the interviewed commented also the role of the relatives as gatekeepers of ICT –services. In some cases, elderly are unable to decide the services that he or she will receive. This does not mean that elderly would be unable to use ICT solutions as part of their service portfolio. This way relative's have a big role in deciding what services their relatives should have. And if the relatives have negative role towards ICT services, they will not accept a service that uses ICT –solutions. ICT –solutions is not seen "as part of the idea of good care" that is given directly face to face. Many of the elderly could try things and learn new ways but some of the relatives will see this too difficult for the elderly. This also leads to a situation, where relatives deny the use of ICT based services.

In a way the problem above relates to a bigger problem that was described by another interviewed. When using ICT based solutions with elderly we do not have any traditions and models how to operate with new way of

producing services. ICT skills vary among the workers. Some can be very good and others cannot understand it at all. The processes are in some part guided by solutions that should only make jobs easier. And ICT solutions are not seen as part of the “good care concept”. ICT changes the basic elements of work and we do not have a models or traditions to look it differently. Care is no longer completely handled next to patient or customer. It can be self directed or done through networks. People working with elderly suddenly need skills that were not needed before. Some of the interviewed hoped that media could give more positive picture about ICT services. This could be a way to change culture, make ICT accepted by relatives, workers and customers.