Trapped in the digital divide?

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Introduction

For several years it has been a political objective for the Danish Government to avoid a digital divide in the Danish population. In the late 1990's the old part of the population was pointed out as a group in danger for being left out of the Information Society. Statistics from the last couple of year had documented that the digital divide was changing. It was no longer just young, well-educated, wealthy men who were familiar to ICT and regular user of the Internet. The figures showed that women, lower educated and lower paid people were joining the young men on the Internet. The only group who was significant behind in the use of Internet is the group of old people. Thus the Danish Government in 1999 introduced a combined research and developmental program for Old Peoples Use of ICT. In this paper I will give an answer to whether or not the program has actually prevented old people in Denmark from being trapped in the digital divide and instead made them a part of the Information Society.

Within the program six locally based developmental projects are making social experiments with different ways of old people's utilisation of ICT. One of the research projects follows these six local developmental projects and does research on the impacts of them. This paper is based on the tentative results from this study. After a brief introduction to the theoretical framework this study is based on I will present the Danish ICT-policy, which forms the political background for the program. In the next section I will present the program, its objectives and the projects in it. I have chosen to give a further presentation of two of the developmental projects. I will demonstrate how old people experience the meeting with technology and analyse how ICT becomes a part of old people's everyday life. On behalf of this analysis I will conclude whether or not old people in Denmark are let into the Information Society in these developmental projects.

Theoretical framework

The study is based on a theoretical understanding of technology as socially constructed. Through de-construction of already existing technologies researcher from the field of Science and Technology Studies have shown (e.g. MacKenzie & Wajcmann, 1985; Latour, 1987; Smith & Marx, 1994; Bijker, 1995) that technology is constructed by social actors who interact with each other and with the technology that is being developed. The social actors who construct the technology can be researchers, technicians and designers, but it can also be the marketing and advertising people, social movements not to mention the final users.

As long as technology is under construction, the various social actors involved in the development can promote their different interpretations of what the technology is. Bijker (1995) describes technological development as a process whereby the social actors gradually settle into a common interpretation of what the given technology can—and cannot—be used for. The process takes place by the closure of the controversies between the actors. In this way, the technology is gradually attributed a specific significance, and Bijker speaks about technology having become stabilised.

At one time or another, however, the process of construction ends. Technology has become stabilised, the actors are in agreement as to which meaning the technology has and what it can be used for. At this point, Hughes (1994) says that technology has achieved momentum. When a given technology has achieved momentum, it can be

very difficult to change it at a later point. It may well be that it was possible to exert an influence on the construction of the technology until a certain point, but once constructed, it can be nearly impossible to change it.

Latour (1987) describes this situation by saying that technology has become a black box. When the construction of the technology is finished, it works in an interaction, or a network, with the surrounding actors, and as long as this network is strong enough, technology will maintain the meaning, which has been constructed around it and in relation to it. By this point, the users of the technology have ceased speculating about how it has been created and whether it could have had an entirely different function or meaning. At this point, the technology is simply used on the basis of its attributed meaning.

However, this does not mean that the technology will always appear this way. In some situations, the network breaks down. This breakdown can occur over time, when the actors lose their involvement in the technology and stop using it. Or there may occur other social developments which make it necessary to either entirely cease using the technology or to reinterpret it and give it another meaning. That the technology has achieved momentum and has become a black box does not mean that it will maintain the same function forever. Yet as long as the network between the technology and the social actors around it is in place, it will continue to have the meaning which is constructed in the network.

The single human actor is a part of many different networks. Bijker has developed the concept of inclusion (Bijker, 1995: 139-143) to describe in which degree the actor is included in a network. If an actor is fully included in the network s/he thinks and acts completely in line with the interpretation of the technology constructed in the network. In this way the network works as a structure for the way the person acts. If an actor is only included loosely to the network the structuring function of the network will be rather limited.

According to this briefly described theoretical framework I understand the developmental projects as a situation where old people can meet ICT and construct a network based on their interpretation of the technology. Because ICT in many ways is already constructed of others (the hardware and software is standard products) it makes a structure for how the old people in the projects can utilise it. But the content of the technology is not fixed and in that way the old people plays a role in the process of constructing ICT. Thus they can contribute to the process of constructing the technology.

This is only a brief introduction to the theoretical framework of the study but due to the limits of this paper I have to leave it here. In the next section I will present the Danish ICT-policy as a background for the program for Old Peoples Use of ICT. This part of the study is based on a literature study of a long row of policy papers from the Ministry of Research and Technology.

Danish ICT-Policy

Until 1994 the main actors in the development of the Information Society in Denmark were big national companies like e.g. the former national PTT (Post, Telegraph and Telecommunications). Even though these companies were public owned they were

driven like private companies, which indicate that the market forces was steering the development. But in 1994 this situation changed because at that time the Danish Government published the first Danish ICT-policy. Before that we had had a technology-policy, a tele-policy, a media-policy and so forth but at that time these policies merged to an ICT-policy (Johansson, 2002).

It was not a co-incidence that the policy was published at that time. In 1993 the Government had for the first time in history formed a Ministry for Research and Information Technology very much inspired of the international development. In 1992 the Clinton administration had launched the so-called NII-initiative (The National Information Infrastructure), which had inspired the European Union to set up a working group with the purpose of formulating the European strategy for the Information Society. The report from this working group (Bangemann et al., 1994) was the direct inspiration for the Danish Government to set up a committee with the purpose to formulate the Danish strategy for the Information Society. The work of this committee resulted in a report called Info-society 2000 (Ministry of Research and Information Technology, 1994).

The strategy lined out in the report differs from the American and European strategies in two ways. First, the Danish strategy recommend that the public sector shall be a driving force in the development of the Information Society, second the strategy shall build on some special Danish values on openness in the administration and democracy (Jæger & Hansen, 1999). It is described as follows:

> "The strategy should be based on a *Danish model* involving that market forces are not allowed to be left alone. We must make sure that a number of special values prevail, primarily through a public sector effort:
> - IT should support free access to information and exchange of information.
> - IT should support democracy and give the individual the opportunity to exercise his influence.
> - IT should support personal development, one of the means being to support the individual in his working situation and in his leisure time.
> - IT should support openness in the public sector, making it more transparent, contributing to the promotion of efficiency and rationalisation in public institutions and enabling them to provide better service.
> - IT should be used to sustain the disadvantaged of society." (Ministry of Research and Information Technology, 1995: 12-13)

The report stress that the special Danish values also includes a societal responsibility for the weak groups in society and a political demand on making sure that these weak groups also will have access to the Information Society. This is expressed as follows: "A *social responsibility* for ensuring that everyone can be involved, so that the info-society really is open to all" (Ministry of Research and Information Technology, 1996: 7). In other words, the Danish strategy emphasis the importance of avoiding a digital divide.

The report placed ICT-policy on the political agenda. For the first time ICT was treated as a political theme which had significant influence on the societal development. The report almost became a best seller and it initiated a very broad discussion on technology in society. Questions like, is it possible to prevent a digital

divide? Can it be prevented by creating a universal access to the technology? Will the Information Society turn out to be a society of surveillance? Questions like this were broad up in the public debate.

During 1995 the Ministry of Research and Information Technology followed up by making a very concrete plan for action. The Action Plan dealt with issues like an Electronic Citizen's Card, public authorities use of ICT, a national health network, establishment of a research network, a public school network and a cultural network based on the public libraries and museums. The private sector was encouraged to take the same steps as the public sector and integrate e-mail, EDI etc. in the companies and develops networks between companies. The first steps were taken towards a liberalisation of the Telecom Services. The first Action Plan has been followed up every year since then. In the following years the action plans created many ICT related activities at all levels of society. Some of these activities were directly focused on different ways to prevent the rise of a digital divide. One of these activities is the special program for Old Peoples Use of ICT.

This was the dominant Danish ICT-policy until the end of 2001. There were some minor changes in the action plans. E.g. there was a shift from the first report where every ICT initiative was regarded as positive. At that time there was an enthusiasm connected to ICT and the strategy was "let 1000 flowers bloom!" During the years this enthusiasm became more realistic and a need for focusing the many initiatives and shape a common electronic infrastructure in the public administration was expressed. But the overall ICT-policy based on some special Danish values was the same al the way through.

At the end of 2001 a new government took over. The former government was a coalition between the Social Democrats and the Social Liberal Party, but the new government was a Liberal Conservative coalition. The new government published their ICT-policy in a report called "IT for all – The Future of Denmark"[1]. Many of the ingredients are the same as the former ICT-policy but the weight of the different elements has changed. The public administration is still regarded as an actor in the development of the Information Society but the driving force shall from now on be the private sector.

> "The development of ICT and Telecommunication in Denmark must primarily be based on the private initiative and on the market conditions. The Government will primarily stimulate the development by reducing obstacles and encourage a binding co-operation between public and private actors. On a few strategic areas it can be necessary that the public sector act as a locomotive for the development." (Ministry of Science, Technology and Development (the former Ministry of Research and Technology), 2002: 9 – my translation.)

The strategy also stresses that the Danes shall be qualified for the Information Society, not for their own sake but because the private companies have a need for skilled employed. The report points at the need of not just being good at utilise ICT but also of being able to make money of it. It says:

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[1] The inspiration from EU is visible even in the title. In 1999 EU had launched an action plan called "*e*Europe: An Information Society for All". The European strategy in this field is further described in Sancho, 2002.

"Denmark is a world class country of ICT-users, but we can be better in getting something reasonable out of it – and make money on it. In other words there is room for improvements. Thus the Danish ICT-policy must be more nuanced, profitable and sober than it uses to be. We will reduce the clichés and focus on concrete initiatives." (Ministry of Science, Technology and Development, 2002: 41 – my translation.)

The concrete ideas of action in the report are very much in line with the old strategy. Actually, the former government initiated many of the activities. But as the above quotes show there has been a shift in the overall priorities. Now the focus is on the need of the private sector and the possibility of making money and the former talk about special Danish values, digital divide and democracy are characterised as clichés. The new government are not worried about the digital divide, and programs like the one for Old Peoples Use of ICT and similar programs will probably be history by now and it is unlikely that new programs like this will be initiated of the current government.

Old Peoples Use of ICT

Based on ICT-policy the former Danish government wanted to know whether or not there existed a digital divide based on age. Thus there was, in 1996, established a committee whit the task to make a study that map Old Peoples Use of ICT. The then Minister of Research and Information Technology (Jytte Hilden) explained the need for the study in this way:

"'The study is the first step in a bigger aiming and is an important sign of that information technology is not only for youngsters and nerds' says Jytte Hilden…. 'I believe that old people both can and will play a role in the Information Society of the future'" (Ritzaus Bureau, 02/09/1997)

The report form this study (Nielsen & Holst, 1998) shows that old people in general is not afraid of new technology. In 1997 when the study was conducted 19% of people over 60 years had a mobile phone, 13% were using a computer in their home, but only 4% of them had tried to use the Internet. On behalf of these figures the committee recommended some special initiatives to prevent that old people were let out of the Information Society.

When the Minister of Research and Information Technology in 1997 presented the annual Action Plan for the development of the Information Society she said to a newspaper:

"'We are now in a new phase where we shall encourage with equipment and training in the use of information technology' Jytte Hilden said by the presentation [of the Action Plan – BJ]. 'I will look at the human aspects of the Information Society. The old people and the handicapped must have better access to the information technology'" (Aktuelt, 15/05/1997: 6)

At the same time it became clear that the demographic development, similar to most other European countries, will result in a dramatically growth of the old part of the population in the coming years. Simultaneous, the extremely low birth rate in the

1980s will result in a decrease in the number of people engaged in active employment. In this perspective it also became a political objective to use ICT to develop services for old people, which could decrease the need for public services.

The government responded to these challenges by reserving 33 million DKr. (about 4.4 million Euros) on the state budget for a combined research- and developmental program for Old Peoples Use of ICT running in 1999-2003. The objectives for the program were described as, investigating:

- "The potential for a more flexible withdrawal from the labour market by means of ICT
- The possibilities for new applications of ICT that directly aim to improve the quality of life of old people
- The possibilities for developing pedagogical methods for old people so as to build up ICT competencies among old people." (Ministry of Research and Information Technology, 1999)

Out of 70 applications 11 projects were selected and founded. As already mentioned six of them were locally based developmental projects. Due to the broad scope of the program these six projects focus on very different aspects of ICT for old people. Another of the projects was a dissemination project, which resulted in 12 TV-programs dealing with different aspects of Old Peoples Use of ICT. The final four projects were research projects. They cover different aspects, from research in how old people's muscles deal with the use of a computer mouse (Jensen et al. 2002) to research in the implications of ICT on the everyday life of old people (Calberg et al. 2002) and the study that follows the six developmental projects.

In the next two sections I will present two of the locally based developmental projects and analyse whether or not they contribute to pave the way for old people in the Information Society. The analysis is based on several interviews with different participants in the projects. The project managers are interviewed three times during the project. Different participants are interviewed at three different moments. Some of these interviews are made as group interviews others are made with single persons.

The Active Senior Project

This project is based in an activity day centre for self-reliant old people called Rosengårdscenter. All activities in the centre are organised by the users themselves. In April 2000, there were 84 activities going on in the centre, each attended by between 2 and 100 users. Volunteers among the users run all the activities. As visitor of the centre you are meet with a spirit of activity, energy and a principle of old people helping each other. The centre is often used as a model for other activity day centres for old people not only in its own local community but also in the rest of the country[2].

The Active Senior Project was initiated of three of the users of the centre. They got grants from the program for Old Peoples Use of ICT and the project started in the end of 1999. The objectives of the project was to introduce ICT for the users of the centre and by that use the technology to improve the quality of life and make the old people

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[2] The centre as well as the project is further descriped in Sterlie (2002) (in Danish) and in Fuglsang (forthcomming).

more self-reliant in accordance with the basic principles of the centre. It was also a part of the objectives to raise the knowledge about different existing aids and appliances for handicapped persons like synthetic voice software and other things.

Six workstations were set up in the centre forming an ICT-café. In this café courses for both in-experienced and experienced users are running. Volunteer old people with computer skills run the courses. They have developed a special teaching instruction and the training program based on the needs of the old participants. When the café is not used for training it is open for the users in the centre. When the project started the initiators asked for participants. 150 people immediately signed on. It was much too many so they had to make a waiting list. Today almost four years later there are still people on the waiting list. Now they are waiting for a course for experienced. According to the project's own information 393 old persons had followed ICT-courses from the start of the project in 1999 to the end of 2002.

The old people in the project are using ICT for many purposes. Many of them are now writing their memories, just like they are making genealogy. They are very busy sending e-mails to children and grandchildren. Some of them now have their private account on the computer, they search for information from the local authorities and other places, they edit electronic photos and some of them design websites e.g. for local associations they are members of. Not only the participant of the courses have learned to use ICT also the internal administration of all the activities in the centre is now run on the computers.

A website with information of the project[3] is also a part of the project. All the projects founded of the program were asked to make a website. In the beginning it only contained information about the project but now it is developed with all kinds of information relevant for old people. In this way the project at Rosengårdscentret was inspired of the other projects in the program to se the possibilities in a local website for old people.

In the interviews we have asked how the interviewed person understands the impact of the project. One of the volunteer teachers on the courses explains it this way:

> "We produce a general understanding of the meaning of technology in society and the use of technology among old people. That is actually what we are doing. Beside that, we also decrease the technological gab between the growing generation and the old people. Because many of our participants say that 'we feel memorable and stupid in connection not only to our children but also our grandchildren because they do not understand that we are not able to do these things'….
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> Yes, but because the old people get access to that part of the Danish languish, which is called computer jargon, then they become valid members of the society because now they can join the conversation. And personally I think that is unbelievable important that they not, in top of the other age discrimination, which is going on many places, also is regarded as ignorant and dull in this field. Because

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[3] The website is in Danish and is found at the address: www.aktivsenior.dk

all these slang terms connected to the technology spread systematically to the rest of our languish."

The impacts of the project he describes here is at a general level but the project has also had impact at the personal level for many of the participants. One of the participants describes the impacts of the project in his own life in this way:

> "I have always hated to write and in school writing Danish essays was the worst. Then I ended up as the editor of our patient's association's paper. I write e-mails in large numbers, and make replies on our debate site and so forth. But that is only because I can do it on my PC, otherwise I would never have…
> Interviewer: What does the PC mean to you?
> Everything…
> Yes, I can edit it, and I don't sit here and drop my ball pen out of my fingers."

One of the teachers also describes how the computer can help the old people who are shaking a little on their hands. The shaking makes it very difficult for them to write with a ball pen. Also people who find it difficult to spell can benefit of the use of the computer. The automatic spell check helps them writing the text. Of course this is not special for old people. The impact of the individual also results in a bigger self-confidence for the participants. One of the project managers describes it like this:

> "It is fun to watch how people come here and want to try it. How they come the first time – very doubtful – but when they have been here a couple of times: They just do it! It is a real nice feeling… that you can see on people that they feel that this has been a victory to start on… That self-confidence they have when they have finished a course that is very nice to watch."

In an interview with two of the project managers they describe the impact of the project like this:

> "Actually, we have learned a lot I think. We have learned that old people is not as afraid of ICT as they maybe thought when they started. They are shy if they have to join a course with youngster. But when they are put together in groups here they are much more free and are actually able to work very independent with the stuff. We have learned much about to teach. And we ourselves have learned much about ICT…. The myth that old people should be afraid of ICT does not exist, I think."

As these quotes indicate the general picture of the Active Senior Project in the Rosengårdscentre is that it has succeeded in paving the way to the Information Society for the old participant. The impacts of the project are significant both on the individual level where several of the old participants have experienced what it are like to be a member of the Information Society. And on the general level where there is generated a knowledge about old people's need in the Information Society and that the myth about old people's fear of ICT do not hold in the real life.

This conclusion is very positive. Of course there have also been a lot of problems in the project. One of the negative effects is that this offer is not meaningful for all old people. E.g. the weak old that is not able to attend the centre will never meet the opportunity to enter the Information Society. Just like senile old people are not able to

learn how to use the computer. There have been several examples on beginning senile old, which is not yet aware that they do not remember so well, who have started on the courses. But the teachers have realised that it is impossible to teach them to use the computer, because 10 min. after they are instructed they have forgotten the instruction. Anyway, these problems in the project do not change the overall impression of a project, which is actually making a difference in opening the door for the Information Society for a large group of old people.

ICT-network for Elderly Councils

The second project under the program for Old Peoples Use of ICT I will briefly analyse is the project ICT-network for Elderly Councils. From the beginning of 1997 there has been a law in Denmark saying that every municipality in the country have to establish an Elderly Council. Following the law the local authorities have to establish an Elderly Council with the purpose to give advises to the local authorities in all questions that matter for old people. In this way the local authorities are obliged to make a hearing of the Elderly Council before it make decisions that can influence the every day life of old people.

In this project twelve Elderly Councils from rural areas in Denmark are working together with the overall objective to gain increased political influence by utilising ICT and Internet. The idea with the project is that it should strengthen the co-operation between the Elderly Council by crating an electronic network between the councils. The strategy is to design a common website with a lot of relevant information for Elderly Councils and beside that to construct twelve different local websites – one for each of the participating councils. The members of the Elderly Councils have to learn how to utilise ICT so they will be able to use it in their daily work in the council.

In an analysis of this project based on information from the first part of the period I make the tentative conclusion that the Elderly Councils actually have gained increased political influence[4]. One result is that the uncertainty about the role of the Elderly Council has become visible in the process of designing the project's websites. The project manger has asked all twelve councils asking what their need for the website is. This question has forced the members of the councils to make clear what their role is and what the task as a member consist of. This clarification has lead to different reactions, described of the project manger in the following quotation:

> "Among the twelve Elderly Councils some of them are very clear of what their role is, but there is also somebody who is not at all clear about that. What happens when we start to ask exact questions is that they are not only uncertain about ICT but also about their work in the council. When the work is going to be put on a screen you have to know what it is. I.e. you can no longer be unclear and say 'Well, we'll talk it over'. So it forces them to be concrete and make their role clear. In this way the technology is very educative, and it starts a reflection of what they are elected for. For some of them the result is that they do not want to run for election next time, because they have realised that this is bigger or different from what they want. To others the result is that it is getting more

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[4] The analysis will be published in Danish in Jæger (forthcomming).

challenging. In this way the project has resulted in some discussions about their role."

The project has also resulted in a bigger visibility across the Elderly Councils and the local authorities. When the common website was designed the project manager gathered information about the conditions in the different local communities. Because it is now possible to compare the conditions from one community to another it is getting visible to the councils how their own conditions differ from the others. This transparency has given them a greater knowledge, which they can use as a base of power in their negotiations with the local authorities. In that way the common website has increased the political influence of the Elderly Councils.

The tentative results of the project show that the project is assessed differently of the different groups involved in it. The project managers are a little disappointed because they had expected a higher speed of the development of the project. The members of the Elderly Councils have a more positive assessment of the project. Even though the goal about using the technology in their daily work is not yet reached they assess that they are better to negotiate with the local authorities because they are better informed about political initiatives. The local authorities cannot se any changes at all, they find the Elderly Councils well informed but they do not regard this as a result of the project.

Trapped in the Digital Divide?

This brief analysis of two of the projects with Old Peoples Use of ICT has shown that:

- old people are not afraid of ICT
- they are capable of learning how to use the technology if the instruction is given on their own terms
- they find a lot of ways to utilise ICT – just like people in other ages
- they are often searching for information, which is different form younger peoples need, thus it gives meaning for them to have special websites designed for their age group
- by the use of ICT they get access to a lot of information, which they use in the political process in the Elderly Councils.

On behalf of these tentative results from the Danish program for Old Peoples Use of ICT it is my conclusion that the program has had an impact in letting old people into the Information Society. These results show that old people can have a benefit of being a part of the Information Society and they have a role to play in this. In this way the program has served as the expected tool for avoiding the digital divide based on age.

In a few years the people who retire from the labour market will be a part of the Information Society already. At that time we will probably not need programs like the Danish research- and developmental program. But today we are in a situation where a large group of the old people is not able to use the technology, and it is very unlikely that they automatically will become members of the Information Society. They need some special initiatives and some extra resources to open the door to the Information Society. Thus it is important to establish programs like this for the time being.

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