

Does Everybody Want IT?

How can we get everybody involved in the IT society of the future?

Kristina Johansson^a, Emma Sorbring^b, Tomas Stegberg^c
Kristina.Johansson@vbg.htu.se^a, Emma.Sorbring@vbg.htu.se^b,
Tomas.Stegberg@udd.htu.se^c

Department of Education and Humanities^{a,b}
Department of Economics and Computer Science^c
University of Trollhättan / Uddevalla

Abstract

Is there a place for everyone in the new IT society? Is everyone prepared for and willing to be involved in the new society? The aim of the current study is to examine ordinary peoples' beliefs about the IT society from a social science perspective. Interviews were conducted with eleven tenants. The tenants live in a housing area built in 1969 in a typical town in Sweden, and none of them currently use the Internet. A content analysis was used to examine the interviews.

Most of the tenants were either very negative or ambivalent about IT. None of the interviewees thought about IT as a communication tool and they had not been able to come to terms the new possibilities that the IT society can offer. We propose a new form of education that involves the use of community networks in voluntary association and, from a pedagogical perspective we recommend the use of participatory design methods.

Keywords: community network, IT, voluntary association, participatory design, social science perspective, qualitative approach

BRT Keywords: BD, AA, GB

Introduction

Many great philosophers in the 19th century predicted the coming of a new technological era, as did William Rodgers (1969) in his book about the IBM era - THINK. At that time he made some interesting predictions about the future that we are living in today.

“The telephone hookups to computers that are becoming commonplace in office applications will spread to homes and apartments, first among the curious, the affluent, and the showoffs, the wasteful, the status seekers determined to be among the first to acquire newly promoted products - and in due course to nearly everyone else. Payment of bills, applications for credit, loan and bank balances, the ordering of groceries, the preparation and cooking of meals, inventories of clothing and possessions, family medical, tax, and school records, insurance information, and the like will be accomplished or recorded through data processing, information retrieval, and instructional systems bought or subscribed to as an addition to ordinary telephone service.” (Chapter - Portrait of a Twenty-first Century Corporation, Rodgers, 1969, pp 334-335)

Both Rodgers (1969) and Beckman (1987) describe how this process affects the

individual in society. What is really going on? Information Highways, Digital Cities, Tele-Work, Tele- Villages, Tele Commuting, Smart Communities and so on. We are, quite simply, becoming an increasingly communicative and technologically mediated society. Dahlbom (forthcoming) thinks that we are in the middle of an IT-revolution and that the structure of society is undergoing major changes. We are moving out on the Internet, as we once moved from the countryside into the cities. In this article we will attempt to ascertain what ordinary people know about the "IT-revolution" and how prepared they are for moving out onto the net.

We have done eleven interviews with people living in a housing area in an average community in Sweden. From the analyses of the interviews three common themes could be identified; experiences about computers, the advantages and disadvantages with the new computer society and visions about the IT- society. The Chapter – What do they think about IT? – Reflect the analyses with quotations from different responses selected from the interview data. The main part of the group can there for be characterised as late majority or "laggards". In our discussion -How can we involve them in the future? – We have a suggestion how to do it.

Adoption of IT-society

In 1969 Rodgers predicted that nearly everyone in our time would use computers for different applications. Is it so today? In Sweden more than half of all households, 2.1 million, have at least one computer at home and more than half of those have Internet (IT-research, 1999). During the month of January 1999 more than three million out of all eight millions Swedes surfed the net (Sifo Interactive Media, 1999), the majority of whom were men. Among those with Internet less then thirty-percent used Internet based bank serves and only a few bought travel tickets, everyday commodities and other articles over the Internet (the only common articles being books and music).

Schuler (1998) has initiated a community research project where the central focus is on current and future public communications systems. This network community has members from many countries all over the world. The work of this network is related to Computer Supported Collaborative Work (CSCW), netgames, virtual communities, and other "cyber" areas but with distinct differences. The focus of this network will be on the public use, design, policy, cultural perspectives, international, and multicultural uses of networks. This research group has a website for a thematic research network focusing on communities - Community Networks, and a number of papers and articles have been published (Casapulla et. al., 1998; Grasso et. al., 1998; Ranerup, 1998). Those research papers introduce the domain and present a number of very interesting cases about the use of community networks.

The information technology revolution is accompanied by concerns as to whether all members of society will be suitably equipped to enable them to fully participate. Individuals in a social system do not adopt an innovation at the same time, figure 1. Rather, they adopt it in an over-time sequence, and thus individuals can be classified into adopter categories on the basis of when they first begin to use a new idea, which, in our case, is the computer and the Internet. Instead of describing each individual adopter in a system in terms of time of adoption it is more efficient to use adopter categories consisting of individuals with a similar degree of innovativeness (Rogers, 1995).

The groups that are conducting research about Community Networks (Schuler, 1998) are all working with the same adopter category – Innovators or early adopters. The

same adopter categories are also involved in different research activities/articles in the virtual society (ESRC, 1999-05-10).

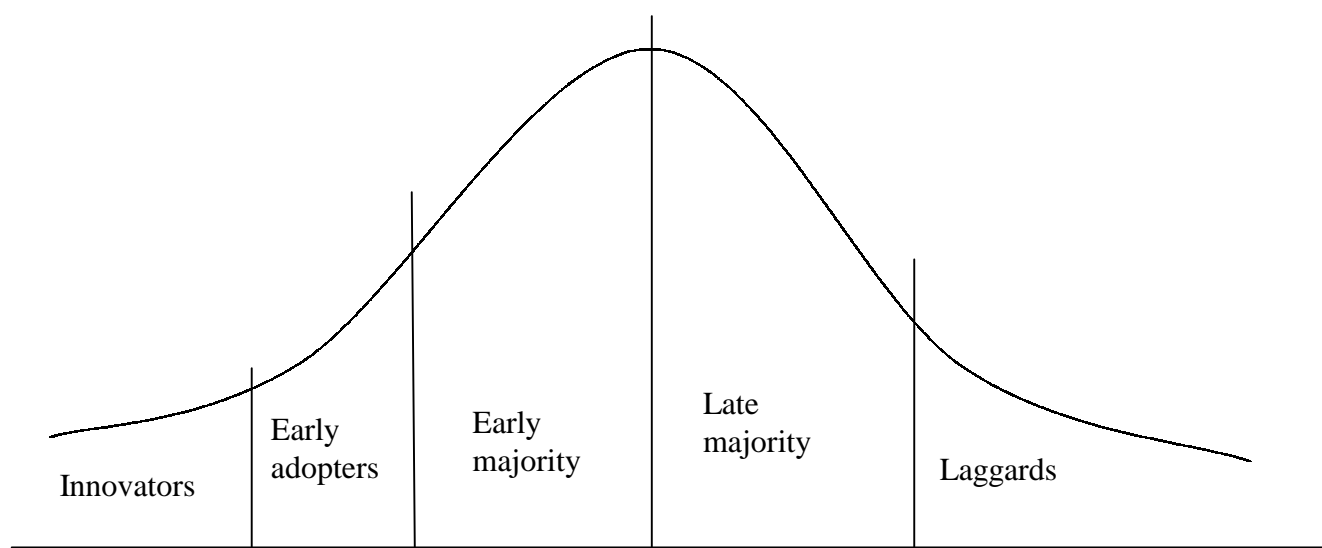


Figure 1. Adopter Categorisation on the Basis of Innovativeness (Rogers, 1995)

However, we have identified a gap in this current body of knowledge. Ongoing research, such as those projects described by, Schuler (1998) or Virtual Society (ESRC, 1999), are either technical or are undertaken by involving people that have already accepted the concept and are very interested in the use of computers. Who cares about those people who do not have the requisite knowledge about IT or the interests or the opportunities to be a member in a digital city? We hope to fill that gap in contemporary knowledge, by introducing IT and Web-technology to those who today do not have those opportunities.

We believe that the greatest obstacle that the IT society has to surmount is neither economic nor the access to technology, but more the fears and prejudices of ordinary people. To better understand this obstacle we have adopted a social science perspective.

One of the most important questions we have to ask is where in the new society is there a place for the individual. There is a step between the technology and the use of technology, and that step is the acceptance of what the new technology means for us. We have to accept that we still are humans, even if the manner of our existence changes. We have to accept that social interaction is still social interaction, even if, in part, we communicate in a different way.

The new technology scares people more than it attracts them (Dahlbom, forthcoming). Dahlbom thinks that in agrarian society the home was the focus and that was where all activities took place. When rural-dwellers moved into the cities they took their homes with them but they didn't use the technology as much as people in the city. Gradually, the home has become just a place to live and the working place the place that gives security (Dahlbom, 1997). He argues that when the home is no longer a place where people work, it loses the character of being a home. Dahlbom's question is; how shall we look at new ways of living and how shall we live on the Internet?

In terms of evolution, people have always had to adjust to the roles and traditions of society. Ljungberg (1991) describes this adjustment as a capitulation/surrender mechanism. This means that if the individual disclaims certain biological behaviour, reactions and experiences, the individual must consequently find a new way of acting. Ljungberg believes that this is what many people have been doing and what many people

will have to do. The reason that a new social order is able to develop is because of the fact that most people use this capitulation mechanism.

Dahlbom (1987) believes that when the individual has identified herself with society a new more technological self-identity is developed. Loyalty, honesty and solidarity were highly valued in industry society. Today those values have been replaced by others of efficiency, competence and success. One reason for this is that work occupies a greater place in people's lives and that society demands higher levels of consumption (Dahlbom 1987; Dencik 1994). A consequence will be that the individual will have to adjust to technology to be able to fulfil society's production demands. To manage the technology it is necessary to be able to think logically and rationally (Ljungberg, 1991).

Hegel (cited in Dahlbom, 1987) claims that the individual changes in interaction with other people and their environments – each individual compares themselves with others. Dencik (1994) believes that we are all victims of our time and that we perceive our surroundings in a specific way depending on which time we live in. He also thinks that we will have to find a new way of looking at normality, because, “a society in constant change will put high demands on mental and social flexibility”. New technology gives the individual a possibility to be in more than one place at the time and that means that the individual can be part of many different contexts and a consequence can be a more diffuse identity (Dencik, 1994; Sennett, 1998).

The aim of the study is to examine the beliefs, perceptions and visions of ordinary people about the development of the IT society in Sweden.

Method

Live in IT (Bo I T) is a research project - sponsored and initiated at the end of 1998, by 17 housing companies in West Sweden. One of the housing companies, the largest in an average community in Sweden, with 5,535 apartments in the town, has decided that four buildings in one of their living areas, that were built in 1969 with a total of 82 apartments, will be a pilot area for the introduction of the new technology at home. Today there are 17 unoccupied apartments, the average age of the tenants that have the contract is 40. The oldest contract owner is 86 year and the youngest is 20 years old. In every family there is a contract owner and of these are 31 women and 30 men. During the autumn of 1998 the company carried out their own quality study which found that 90 % of the tenants were satisfied with their apartments and with the housing company. Some apartments are rented by different voluntary associations, which have some of their members in the area. The area has a multicultural population.

Sample

A total of eleven interviews were conducted. Of these interviews there were two that we could not use in the study, because of language problems. This means that only nine interviews were used in the analysis. The nine tenants (5 men and 4 women) were ranging in age from 22 to 76 ($M=38.3$ years, $SD=18.7$). The tenants were recruited randomly from the same housing block, in a town in the West of Sweden. None of the tenants were informed about the IT-project. However, all informants were told that the interview would be treated as confidential information and that their participation was voluntary.

Four of the informants were unemployed, two were factory workers, and the other three were, respectively, a nurse, an accountant and a senior citizen. One of the women and one of the men had non-Scandinavian backgrounds. Only three, all men, of the nine informants had computers at home. However, two of the women were just about to buy computers. Only one (a woman) used a computer on regular basis at work.

Procedure

The interviewees were each contacted by telephone and a time and place for the interview was arranged. The people who could not be reached received a letter with an invitation to participate in the investigation. Seven respondents were interviewed in their homes, whilst two wanted to be interviewed in a more neutral place. After an agreement, the transcription of the interview was sent home to each respondent for his/her approval. By doing this they had a chance to correct or add more information to their interviews.

Measurement

The interview started with an open question “- *Could you tell me a little how you view the IT society today?*” The answer to this question decided in what order the rest of the questions should be asked. Some examples of questions asked were, “*Do you feel or have you experienced any demands from society to be able to handle a computer?*”, “*Do you believe that ordinary life will be changed because of the process of computerisation?*”, “*How do you think society will be in the year 2020?*” This method was used to obtain a spontaneous answer to each question asked. Each of the interviews was conducted by a single interviewer.

Analysis and processing

From the interviews three common categories could be identified; experiences about computers, the advantages and disadvantages with the new computer society and visions about the IT- society.

The qualitative approach and the content analysis, which were used, are inspired by the Grounded Theory tradition (Strauss and Corbin, 1994). We are interested in patterns that occur in the data. Further, we have also studied the discovery process - the reciprocal changes in the pattern. These changes can have both internal and external causes. Another interesting area is the plausible relationships among concepts and sets of concepts.

The sample has been limited to 11 individuals. This closure has been affected once a level of saturation has occurred in the material. The data becomes saturated when the interviewees' responses have answered the problems that have been asked. A method to investigate and find the point of saturation is, according to Perneman (1997, s 33) that you have to work with many of your senses “to find a track that is strong and clear, to explore several languages, but to choose out of it the one who is the most meaningful.”

The first part of the analyses is to identify and isolate substantive codes and then try to code them into concepts/ core categories. Thereafter the next step is to find the story line in the material.

What do They Think about IT?

There were three variables which recurred in the data, and which were identified as core concepts. They were: 1. Experiences about computers 2. Advantages and disadvantages with the IT- society of the future 3. Visions about the IT society of the future.

The analysis is based on how the informants related to the new technological society. The informants chose a more or less conscious behavioural approach to maintain or change their conceptions of the nature of society. In the investigation four different behavioural attitudes can be identified. When the interviewees' answers were categorised into different boxes it was their attitude that was in focus, not their personalities. They are the so-called '*go-ahead*' attitude, *The accepting attitude*, *The ambivalent attitude* and *The dissociate attitude*.

- In the Go-ahead attitude the new society was experienced as being something positive. The informants saw none or few disadvantages with the new society and they often used expressions like "it's exciting".
- In the accepting attitude the informants chose to view changes to an IT society as something that was unstoppable. They therefore felt that they had to adjust to the new times and the new society.
- The ambivalent attitude is reflective of those individuals who have not confirmed one single attitude, and are generally ambivalent. This is evidenced in their way of expressing themselves. In one sentence they can express fears about the IT society and in the next sentence point out how good computers are as an aid for different purposes.
- The dissociate attitude reflects the individual's desire to return to "the old society". An expression like 'it was better before' or 'I'm nostalgic' demonstrates a desire to return to the "good old times".

The attitudes reflect the respondents' experiences and beliefs about the IT- society in its present form and in the future. None of the respondents used just one attitude, but made use of several, which indicates that the boundaries between the attitudes are fluid.

The results of the investigation are based on individual responses selected from the interview data. The responses have been categorised according to the attitude adopted by each of the respondents in relation to the different core concepts. After some of the quotations you will find references made to relevant theory in addition to a subjective analysis. The responses also reflect the individual's gender, occupation and age.

Experiences with Computers

In this main category responses from all of the interviewees are included in order to demonstrate how as separate individuals, they experience the computer and information society. The respondents often expressed the belief that the computer was good for industry, work connected with social organisations, or to play games with. At the same time they expressed a fear not to be able to keep pace with the rapid pace of developments in society.

The 'Go – Ahead' Attitude

"Yes, well what should I say, when it comes to education it is great that they are around in schools. I have tried it out myself and I think it is great because it simplifies the education or work and so on" (woman, unemployed 22 years of age).

This response is categorised as 'Go-ahead', because she says that it has helped her in her schoolwork. However, this is not so surprising because she belongs to a computer generation by which we mean that she is raised in the "new society". It should be noted that she is the only young informant who had expressed an opinion in this way and therefore has been categorised in this attitude.

The Accepting Attitude

"The only thing that has been good, I have been engaged in social organisations, is that you have it all there and if you have made a mistake you can see it" (Woman, unemployed 25 years of age).

"I don't know, but IT might have been overrated a just little bit. It is everywhere nowadays and I don't think it is so very important" (Man, unemployed 25 years of age).

"Yes, of course there are a lot of games played on the computer as there are a lot of new programs. I work with some drawing programs, sitting and drawing that's what I do, and a lot of internet also. I do that most at night. There has been a rapid change in development if you could say so. I think it's really hard to keep up because new materials are constantly being produced. Then I don't know, its quite expensive stuff. It is starting to get cheaper now but before it was really expensive. But I don't knowthere are both positive and negative things with the Internet" (Man, factory worker 22 years of age).

"I suppose its OK, only if it is used in a good way, it isn't always.... It is supposed to be an aid..., the computer should be a help in work and it shouldn't be a toy because then we have come a bit off course" (Man, pensioner 76 years of age).

"It's going too fast, you can't keep up... It should have been a bit easier to learn when we bought the computer. When it came, we got a lot of books and things you had to read through and it didn't stay in here (points to the head)" (Man, factory worker 49 years of age).

This group expresses both the advantages and disadvantages with the new society, and concerns can be detected in the answers of several of the interviewees. Not knowing what the future will hold can be frustrating and create a feeling of insecurity in the new situation. In the first response we can interpret what she is saying as that the only thing that is good with the computer is that it can be used to correct mistakes, but as it is here to stay it may have to be used for other applications. The second response can be interpreted as using the same attitude. The last two responses indicate a concern for the new technology. One of them expresses the belief that computers are good as long as they are not misused and the other one is saying that the development of the new technologies is going way too fast. The reason that most of the interviewees could be included in this category can be explained by what Ljungberg has described as a surrender/ submission mechanism. He believes that if a new society can develop and consolidate, the broad mass of people must make use of this mechanism (Ljungberg, 1991).

The Ambivalent Attitude

"I think its good except that you have to pay via the computer because that seems unsafe because there are some people who have gotten bills that were not for what they had ordered on their credit cards. It has happened twice... Yes, I think it is exciting and I can sit in front of it for many hours in a row" (woman, accountant, 30 years of age).

This woman is also a trained computer programmer. She expresses how she likes the computer and that she can sit for several hours in front of it, but she also says that there can be a risk in using the internet because you may be debited for a wrong order or such like on the internet. Probably she belongs to the go – ahead group but it seems that she has not quite devised her attitude yet, although she is working on it.

The Dissociate Attitude

“ I believe that it is a little frightening in a way if you think about it because it is so big and it almost feels like there is no control over it. I also think its scary when you think that everything is built up by computers” (Woman, auxiliary nurse, 40 years of age).

“What should I say? I really am not interested... Now I am a kind of computer-phobe – that might be the wrong word but I have no interest in it ...” (Man, unemployed 56 years of age).

These responses reflect a dissociating attitude with an emphasis on the disadvantages with the technology or a lack of interest about what the new technology can contribute to society. According to Dahlbom (1998) the new technology that is pounding on our doors can scare us, because we are, at heart, still farmers. But what does Dahlbom mean by this? We would interpret this as being that he means that this group of individuals wants to see their homes as a zone free from technical aids and tools. An important question, in our point of view, in this context is; Do these attitudes create conditions where some groups in society can be excluded and isolated? And if that’s the case, what can be done to reintegrate them into society again?

Advantages and Disadvantages with the New IT - Society

This main category was evidenced in several different forms throughout the interviews, it was also a question that was asked of each of the interviewees. It has been chosen to be a main category because it was mentioned several times in the interviews. Many meant that there were several dangers with the rapid growth of computer development. First and foremost the dangers with the Internet were mentioned, especially that it was full of unreliable information which could be accessed and downloaded.

The Accepting Attitude

“ One of the disadvantages is that people have the view that the computer is something that has a divine status. A person who is not conversant with the computer and does not know how to use one doesn’t have a chance of getting work in modern society. Of course there are a lot of advantages with this technology, particularly when you consider manufacturing industry... which is much more productive today. First they do it on the computer, the thing that they are doing for example... then they check it again. They measure and check the first piece they have made and then if they see a small error they can go into the computer and correct it and then they can do thousands more pieces and the computer takes care of everything without any problems” (Man, pensioner 76 years).

“ I know a lot of people who think it is fun to chat. I have a work-mate who, when he got a computer slept very little and just sat and chatted. I had to go downstairs and wake him up before work everyday. Of course it could be that in the future you meet people via the computer instead” (Man, factory worker 22 years of age).

“ Maybe people might end up sitting in front of the computer and not meeting others. I’d rather be sitting in front of a computer for several hours than be talking on the phone; it’s actually much more fun. It is the same with my daughter - now she is with another girl, a neighbour, playing or something. But I know when she’s at her father’s she’s sitting in front of the computer the whole time” (Woman, accountant 30 years of age).

Ljungberg (1991) believes that the productive demands that society places on the individual require her ultimately to use modern technology. The response “ A human being who is not familiar with computers has almost no chance of getting a job today”, in our opinion, accurately reflects this situation. The rapid growth of technology can also contribute to the fact that “the old society’s” social and cultural norms merge together and form the individual’s living conditions (Beckman, 1987). In this context it could be interpreted to mean that it is necessary to learn about computers to have a chance to compete in the labour market. The response from the 22 year-old factory worker who describes his friend’s chatting can be connected to Dencik’s (cited in Ahlroos, 1994) theory that modern technology can also give the individual an opportunity to be at several places at the same time. In the last response we sense a concern from the informant about that present contact and communications systems are gradually breaking down.

The Ambivalent Attitude

“ There’s no security with IT, I don’t think so anyway, and it’s possible to change things, so you don’t really know what’s true and what’s not” (Man, unemployed 25 years of age).

“ Yes, of course there are two sides to it - of course it is an aid. It is easier and quicker to get information and all of that. At the same time it perhaps can be a disadvantage... You can get so much information that you probably shouldn’t have or its not good for people to have in some sort of way and its also hard to control between all the different countries and so on” (Woman, auxiliary nurse 40 years of age).

“ It is advantageous for me to have a computer at home, as I have said I run my personal economy on the computer... We didn’t talk anymore, we don’t socialise anymore. It’s a problem that when you’re sitting there, its like you could say, yes, a disease. The time goes very fast, you sitting from eight o’clock and suddenly it’s twelve o’clock and you have to go to bed. That’s the problem with computers. My wife tells me that I am married to the computer and its true and I don’t really spend so much time with the computer” (Man, factory worker 49 years of age).

“ There are both advantages and disadvantages. Everything is so much easier and quicker. For instance if you should want to type something out, or if you should want to order something on the Internet, in these respects it’s a good thing. But then you can also get some bad stuff from the Internet, wrong information and it could be dangerous too” (Woman, unemployed 22 years of age)

It is conceivable that the main category (advantages and disadvantages with the new computer society) can have had the effect that very many of those people who were interviewed were categorised here, but the fact that they do still remains. Many of the responses included in this attitude are, in our opinion, reflective of a sense of ambivalence. This pattern shows that it isn’t easy to fully accept something that is new and strange and which is promoted by the social environment and society. The media has a constant focus on the IT society and how this society will look in the future. The

computer is introduced to children at an early age and it is said that those who don't have friends have a computer on their desk at home. Three of the responses express fears and identify dangers with the new computer technology.

The Dissociate Attitude

“ I definitely believe that, especially on the social area, you could be very limited if you spend a lot of time sitting in front of your computer and doing stuff... you meet fewer people, and have fewer contacts and so on” (Woman, unemployed 25 years of age).

“ I don't get it, I don't know what it is good for. It's an enormous mystery to me. I just don't understand what purposes it could be good for” (Man, unemployed 56 years of age).

The last response shows how people can dissociate themselves from what is innovative and frightening. “*I don't know what its good for*”. The question is, whether there are also many other people in society who feel the same way, but repress their feelings because of the extent of the pressure from their surroundings and the media and who are ‘prevented’ from expressing these beliefs?

Visions about the Future IT Society

In this category the visions of the interviewees were of course quite different. Some viewed the new IT society as a threat against their mental image of how a society should be. Several of the interviewees saw risks with a computer-controlled society, while some saw both advantages and disadvantages with such a society.

The ‘Go – Ahead’ Attitude

"Thinking about IT.... I think it will expand enormously... I think, yes, then it will be normal for everyone to have a computer at home.” (Woman, unemployed 25 years of age)

“ There is bound to be a lot of change anyway. Society is progressing all the time, it doesn't stand still it just keeps on and on. It is difficult to conceptualise the year 2020, flying cars... the neighbour drives by here on the balcony ‘Hello’! Yes, there's gonna be very many computers. There will probably be more than now... I think its gonna be as usual as having a car if it isn't already so...” (Woman, unemployed 22 years of age).

“ Everyone will be sitting and chatting and will have stopped talking on the telephone and will instead be sitting with a microphone like this in front of the computer... It will probably not be as usual to use the phone, especially when its much cheaper to chat, and put on a monitor so you can see each other instead of talking on the phone” (Woman, accountant 30 years of age).

Again we believe that the interviewees' age is of importance. The younger generation's confidence in innovation is clearly evidenced. Further, something more that is noteworthy is that all the above responses are from women, and this is something which is worth reflecting upon.

The Accepting Attitude

“ In thirty years.... I would think everything is pretty much computer controlled. People will not need to go out so much, because everything will be run from home. Maybe even

work from home. There are many people doing that already. Either that or they have got round it and it is phased out, almost completely. But I don't know, but I do think that it will be more computerised" (Man, factory worker 22 years of age).

This vision speaks for itself. The interviewee, in common with others, believes in a more computerised society. What's interesting is that he believes that distance working can be further developed or will completely disappear within a short space of time.

The Dissociate Attitude

"It feels a little as if you don't learn anything, You may almost become illiterate in the future and you don't quite know what things are about either... With computers it may just be a question of time, and, if you are running things from home from your own computer, you get used to it and maybe it will become more natural... Yes, people may become more isolated in their homes and it can be almost that you socialise with other people via your computer and so on. And perhaps that isn't so good really" (Woman, auxiliary nurse 40 years of age).

"It may soon become so that you can't go home and fry pancakes without logging onto the computer first... There are going to be computers everywhere... We have no idea what the computer will look like in the future; maybe it will be a computer that you give commands to and you don't even have to press buttons at all. You only tell the computer to type this out and then the computer becomes a kind of personal assistant" (Man, pensioner 76 years of age).

"Human beings are weaker because of all the technology which is progressing... robots and so on. Computers and robots are increasingly taking over at work and, people don't have to do as much in the same time. For me it's a disadvantage... I think it's wrong that the development is growing so fast. I'm negative, no, not negative. It will affect society a lot... as I said you shouldn't only sit home and run everything via your computer... Maybe you don't need a secretary and maybe not so much child day-care and stuff like that and maybe children will be better brought up... maybe... In thirty years you may not need to go to school because you can sit at home..." (Man, factory worker 49 years of age).

"It's the reality of the future and it is extremely well marketed. But it will be an impersonal future in that in some way you will see the computer like a kind of friend. You will trust it and that is something I wouldn't do at all... The clock cannot be turned back, the IT society has come to stay, I believe that... I think it's gonna be very computerised. People rely on the computer. Unfortunately I believe it will be unemotional and have no soul, and people will become more and more materialistic and don't give a darn about more down to earth things. ... Put simply, it will not become better. I'm a little nostalgic and like what has been before. But I don't think all progress has necessarily been for the good. I think human kind have so much more to give. You should grow as a person and you should not hand it all over to a machine" (Man, unemployed 56 years of age).

"It's a lot of talk about this now that everything will be computerised and IT will come into our homes as so on. But I don't think it doesn't work anyway. Of course to some extent, but it won't be much fun in living if everything will be handled in this way. But you can have the whole house connected up if you want to. In theory you can have the food made almost as soon as you arrive home, and the coffee as well." (Man, unemployed 25 years of age).

That the new society is here to stay, is one fact that all of the interviewees are agreed upon. Several mentioned that it's going to be more computerised than it is now. Its

possible that the interviewees display a social synergy effect or, as Dahlbom (1987) express it that, the human being has, in identifying with society, developed a new view of herself; a perception that is more technological in nature. To be connected to the computer may be a first step towards the “science fiction” experienced for many years, with computer connected homes and more distance fictions such as virtual reality (when you move a individual through time and space) and similar actions. Technology is here - the question is if we are ready to let it in?

How can we Involve Them in the Future?

The hooking-up of telephones to mainframe technology was one of Rodgers (1969) visions about the future, but today we have two new technologies to be hooked-up – personal computers and the Internet. The growth of the IT society has been explosive, but still there are many people who are not taking advantage of IT. These people who do not yet use IT, or have just started using IT, Rogers (1995) defines as “laggards”. The demands on the users (and the non-users) are great and it is important to ask what “ordinary people” think about computers and IT - computers and IT that are coming into their lives whether they want them to or not. Little is known about this group of people and this constitutes a gap in the current research. We hope with our study to be able to fill a small part of that gap, and in that way contribute to a greater understanding about ordinary peoples’ beliefs about the IT society and how to best introduce IT into their lives. If everyone in society has not been given a fair chance to understand the uses and applications of IT, then IT can create even bigger gaps between social class and generations than exist today.

Our results contained statements that reflect different attitudes towards experiences with, the advantages and disadvantages of and visions about the computer/IT. The aim of the study was to examine “ordinary” peoples beliefs, perceptions and visions of the IT society. If we order the individual’s attitudes in a 12-section crosstable, we can get a picture of each individual (Figure 2). The four columns run from Go-ahead attitudes till Dissociate attitudes. The three rows are positioned in an increasing level of abstraction, from the interviewees own concrete experiences to their visions about the future IT society.

The results in figure 2 showed that only one (“A”) of the nine interviewees was positive about the use of computers today and not more than five people (“B, C, D, E, F”) accepted the potential uses that the computer offers. A minority of the group (“D, E, G”) accepted these advantages. Three interviewees (“A, B, G”) who had a positive vision about the new IT society were all women. They have all ordered computers that are to be delivered soon. We can see that one of the women (“G”) changes her attitudes from having Ambivalent attitudes toward experiences of computers, too Accepting attitudes toward the computer’s advantages and finally ends up having Go-ahead attitudes toward the IT society of the future. The opposite pattern is shown by persons (“C, F”), both of whom are men. Two of the individuals have attitudes, which are the same for all the categories, both men, “D” have in all categories an Accepting attitude, and “I” has in all categories a Dissociate attitude. According to Dencik (1994) the new society belongs to women; the gifts of being able to listen and to sense things that can’t be put into words are important factors in our future network society. We are moving towards a society that will focus on hard questions, so in the future research should be focused in a more multi-disciplinary

perspective where we put the soft issues in the centre.

A fear of and objections about the future and the use of IT are voiced by a majority of the people in the study. Five of the nine persons (“C, E, F, H, I”) were negative toward the future IT society. They express a fear for the individual’s existence in the future, and they were all sceptical about social interaction on the Internet. None of these five people think about the computer and the Internet as a communication tool, and perceive interaction, more as the “thing that will take your soul away and a thing that you have to put trust and friendship into”. These people haven’t found a new, comfortable, way of acting toward the new possibilities that computers and IT offer (Ljungberg, 1991). They haven’t been willing to identify themselves with the IT society and therefor haven’t developed a more technological self-identity (Dahlbom, 1987). They are all frightened about the possibility that more flexible ways of communicating and interacting will contribute to a more diffuse identity (Dencik, 1994; Sennett, 1998).

	Go-ahead attitudes	Accepting attitudes	Ambivalent attitudes	Dissociate attitudes
Experiences with computers	A	B C D E F	G	H I
Advantages and Disadvantages with IT society		D E G	A C F H	B I
Visions about the future IT society	A B G	D		C E F H I

Figure 2: The different attitudes of the interviewees are distributed into the main categories. The different persons are;

A – woman, unemployed, 22 years of age.

B – woman, unemployed, 25 years of age.

C – man, unemployed, 25 years of age.

D – man, factory worker, 22 years of age.

E – man, pensioner, 76 years of age.

F – man, factory worker, 49 years of age.

G – woman, accountant, 30 years of age.

H – woman, auxiliary nurse, 40 years of age.

I – man, unemployed, 56 years of age.

It is important not to force people with a negative visions about computers into an IT society. If we do, they will be left with a sense of a diffuse identity and a feeling that IT has not been of any use for them. It is necessary to find a way of introducing IT so that they can perceive of it for what it is – a useful tool.

Implications and suggestions for a new IT introduction

Three of the nine persons that were interviewed had ordered computers (all women) and three have had a computer in their homes for a shorter time (all men). Only one of the people interviewed had computer experiences from work. The main part of the group can there for be characterised as “laggards”, figure 3. As we can see in figure 3, laggards are the very latest adopters of a new idea. This is a group of people that very often are left behind when it comes to new technologies and changes in society, changes that are themselves caused by technology. There has not been much research about “laggards”,

and our study has its focus on this unexamined group.

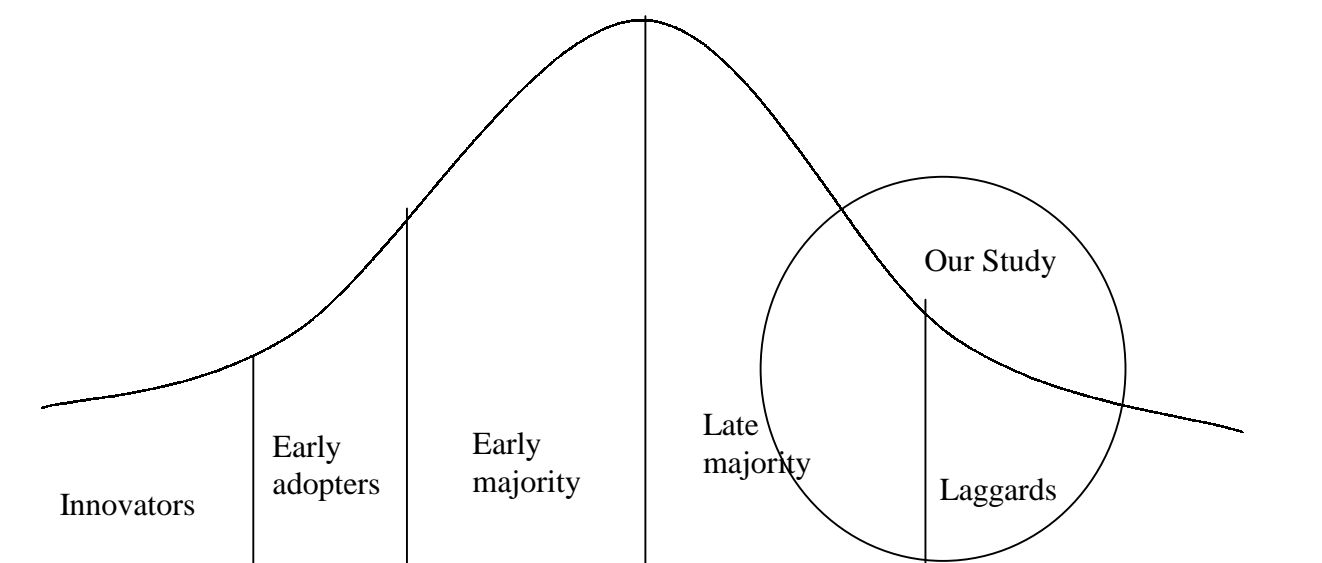


Figure 3. Adopter Categorisation on the Basis of Innovativeness (Rogers, 1995)

Our results shows that many of the people in the study have negative attitudes toward the advantages of IT and have negative visions about the future IT society. On the other hand they are positive about their own experiences with computers. One explanation can be that this group of people find it hard to see the future advantages of IT. This can be because they just have started to use computers and they haven't yet adopted the use of the computer into their every day life. They can understand the practical use by computers in their own situation, but they can not generalise their use in other situations.

The Dissociate attitudes toward the IT society of the future reflect a feeling of fear and insecurity towards the developing IT society Thier comments include for example the fear that. " ... people may become more isolated in their homes..."and that " maybe it will be a computer that you give commands to and you don't even press buttons at all." And further that " ... it will be unemotional and have no soul ...". The group's opinion is that the computer and IT will contribute to an increasing isolation for the individual, which can result in fewer opportunities to show feelings. Furthermore, they think that the future will mean fewer physical activities in the daily life.

When introducing computers and IT to this group of people, it is important to consider their opinions that the computer not is a useful tool – but rather a threatening mechanism that they don't understand. Below, we provide some suggestions as to how future education for this group might be presented..

How can new information and communication technology (ICT) be used in order to support the democratic communication of private citizens? De Cindio (1998) is of the opinion that community networks cannot be conceived and designed without citizens' participation. Participatory design (Schuler and Namioka, 1993) was born as system designers became aware of the need for involving users in the development of computer based systems. This method has been used in the "new" field of communication technology for gaining experiences and understanding learning processes together with the users. Schuler (1996) defines six core values of the new community – conviviality

and culture; education; strong democracy; health and well being; economic equity, opportunity, sustainability; and information and communication. These core values are strongly interrelated.

From Rodgers time in 1969 up to the present day the IT-courses provided to the public in different shapes and forms, are overly focused on how the computer works and on different programming or user tools. This corresponds only to one of the core values that Schuler has identified, and thus is an isolated form of education, isolated from the computer context. Dahlbom and Mathiassen (1993) said that computer systems whether used for communication or other purposes, symbolise and communicate a social organisation. A parallel to this idea is that if you use IT in your leisure time you change the organisation of your social life. Today people who are unemployed often are recommended a general IT education. The people who participate in this form of course often do this without motivation but under pressure that they must do it or otherwise they won't get any state benefits. IT education for the public at large should be restructured to contain more about ICT (Information Communication Technology), its uses and its possibilities. However, we have to accept that we don't know anything about how the computer works. Normally we accept this lack of knowledge about how the refrigerator or the telephone is constructed, but we still use them and need them. If you receive an education that inspires you, enlightens you and entices you, then you are more likely to be motivated to use the computer as a tool in your daily life. It is important to educate people about ethics in communication, so that the fear of, and objections about the misuse of the Internet will decrease. At the end of the day the responsibility for ethical use will always ultimately reside with the user of the Internet, and only partly be a technical solution.

How can you engage and interest the public in a new form of education? Today many Swedes are members of different voluntary associations. On average every Swede is member of more than three different associations (Petersson et.al., 1989) and only 6 % of all Swedes are not members of any association. The people in our sample are on average members of 2,55 different associations. One of the unemployed persons (a woman) in our sample was member in six different associations and active in four of these and another person (a man) was not member in any association. More than 60 % of all Swedes are active in at least one association or are a staff member of an association. The turnover of the Swedish voluntary sector is about four percent of the Swedish BNP (Lundström and Svedberg, 1998). Many voluntary associations have recently started to use computers and the Internet (Stegberg, 1996; Stegberg and Svensson 1997; Stegberg 1998).

When you are a member of an association you have a level of trust for the dialogue that takes place within the association. As we recall from our results, a majority of the individual expressed a fear toward the IT society of the future. It is important to engender a level of trust if a new form of IT education is to be introduced. Our recommendation for a new form of education is to involve the members of different associations in the design process of IT used on an ethical basis. Every association is a community network. Naturally, the new education, which focuses on IT use and its possibilities and is based on participatory design, must be based on the core values for a community network. Every community network has their own balance between the six core values and they thus all have different ways of using IT in creating a dialogue between their members.

Stolterman (1998) argues that even very small technological changes can radically alter the scope of possible actions for users. Using ANT (Actor Network Theory) (Latour,

1987; 1997), he also argues that a prerequisite for a more developed understanding of the social and societal use of this technology depends on how well we understand the technology as artefacts that inscribe behaviour. His conclusion is that the net and virtual communities are not only something to be explored. It is still very much a question of design - of forming technology to support our needs and dreams.

A further interesting feature of the research was that only data from nine of the eleven interviews could be made use of this is also an interesting phenomena in the IT society. Because of language problems people don't always have the possibility to communicate with each other. However the computer could be used as a tool for creating a better understanding between people.

In our ongoing research project – Live in IT - we have started to create a new form of education together with five different voluntary associations and their members. This is one step in involving the tenants in the area to participate in the IT design process. Our study has focused on the soft issues and the interviewee's feelings and experiences of the computerised society. Future studies could focus on both the hard and the soft issues to get a more "complete" picture of these phenomena. Another caveat to consider when interpreting the results is that no definition of IT and the IT society was presented to the participants in the study.

Perhaps the tenants are so negative and ambivalent about IT because their opinions are coloured by the media. Different people's comments clearly reflect this opinion and that of the threat of the misuse of technology. As IT researchers we can only regret that we have not succeeded in bringing the technological possibilities of IT to the attention of the public, and have been unable to convince them of the security in using IT that we have today and will have in the future. Our research networks are isolated from ordinary individuals. We have to be more involved in the debate and participate together with all kind of future users of our products. Considering our results, we think that it is important to let as many people as possible take an active part in the development of the future use of IT.

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