ICT – the solution of communication hurdles in the modern family?

E. Mauritzson-Sandberg & T. Nordmark

Department of Human Work Sciences,
Luleå University of Technology, Sweden

Abstract

The daily life situation for the family has changed drastically over the last few decades and during the same period of time the development within the area of information and communication technology (ICT) has, more or less, exploded. In this paper the two different development curves are combined in order to study the impact of new ICT applications on the daily life situation of the families of today. The two studies presented in this paper focuses primarily on the communication within families with children. The first study aims at mapping the patterns of communication within targeted families and their attitudes to, and need for, different ICT applications. In the second, trial set-ups of different ICT applications are evaluated. The results show that, although the families were assessing themselves as positive to, and experienced in using, ICT the response was moderate. The main reason for this was the lack of time to learn new ways of communicating within the family even though in the long-run it could be the real time-saver.

Keywords: information and communication technology, ICT, family, communication, coordination.

1 A new and different situation for the modern family

The situation for families of today has drastically changed during the last decades. Earlier, a majority of women were stay-at-home mothers. Nowadays, the economic reality, more or less, requires both parents to work outside the home. In the 1960s about 70 per cent of the women in Sweden were stay-at-home mothers while the corresponding figure in the 1980s had decreased to 20 per cent [1]. Valerie Frissen [2] labelled the part of life when fulltime work
has to be matched with pre-scholars as “the rush hour of life”. With this she points at how hard this part of the life could be with a large amount of stress from trying to match parents’ work hours with children’s school and leisure activities. Frissen [2] inquired in his study if ICT can be a solution for the problems families of today face in matching parents’ work hours with children’s school and leisure activities, and if so, might the result be more time for other activities within the families? All parents have probably sometime felt that there never is any time left when all household cores are taken care of. The following story meritorious manifests this dilemma:

“It is in the beginning of the day and during shortest possible time all family members have to get out of their beds and everyone has to be in time for their specific activities. You make breakfast, get clothes for the children, take a shower, pack the schoolbags for the children, make sandwiches for the picnic, or see to that the kids have money for their school travels. Then you try to get the car to start, leave the kids at their day care or schools, and rush away to get to work on schedule. Somewhere between 3 to 5 pm it is time to pick up the children, go shopping, make dinner, clean the table, make the laundry, pick up and leave the children on different leisure activities, and attend a meeting at your children’s school. All this at the same time as you try to give time to, notice, and show interest in each child. Then it is time for “the go to bed procedure” with tooth brushing, fairytale reading and getting the children to go to sleep. Around 9 a clock pm you throw yourself in the couch to, in a more or less mentally absent condition, try to understand what the television newsreader is talking about.” (translated from Plantin [3]).

2 The fast development of ICT

The development in the information and communication technology area is tremendously fast. Cellular phones have changed from being dreadfully large in size with clumsy batteries to be incredibly small and tiny, though, at times at the expense of their usability. Personal computers have gone from being a rather rare private appliance to be an, more or less, indispensability in every home. The Swedish Institute for Transport and Communications Analysis showed in their annually report, “Facts about information and communication technology in Sweden 2002”, that about 65 per cent of the Swedes have access to a personal computer as well as to a mobile phone. Furthermore, that about 50 per cent of the Swedes are connected to the Internet although the percentage of the elderly (above the age of 65 years) is much lower. However, in the ages of 25 to 44 years old were most of families with children belong the corresponding per cent is about 70 regarding access to a mobile phone, about 80 regarding a personal computer, and about 70 regarding Internet connection [4]. A hypothesis is that the noted increase in access to mobile phones, among other things, also has boosted the daily communication between parents in families with children in order to improve the logistics of their every day life.
3 Study 1

3.1 Respondents, material, and procedure

The families varied in configuration from having one child to three children. The ages of the children varied between 4 months of age to 21 years of age. In one family the parents were divorced and lived in separate households. The parents were in the ages between 28 and 46 years. All, except from one, were in full time work. Each of the parents was interviewed for about 45 to 75 minutes. The interview was composed of three different parts. The first part consisted of questions of sociodemographics such as what technical devices the person used for communication and with which frequency. The aim of the second part was to create a map of the subjects’ communication patterns. During the interview the interviewer drew a map of who the subject communicated with, in which way, and what the purpose of the communication was. After the map was created the subject was asked to look at it, reflect over its correctness and to disclose how satisfied he or she was with it. When a subject was not fully satisfied the question was asked if he or she could suggest how it actually should be. In the third, and last, part of the interview scenarios of possible ICT solutions were presented. These were assessed by the subjects by answering two questions. The questions were about interest in the scenario in question and interest in buying such an ICT application. The idea behind this was that interest is a necessary concept for acceptance but not enough. The question about buying has of course its limits in that no cost could be set in this stage of the project. The assumption was therefore that the cost would be comparable to other similar functions that are available today.

3.2 Coordination

All of the interviewed parents mentioned that they communicated by phone about the logistics of everyday life activities. Naturally, within those families where parents had high job demands and children with lots of leisure activities the need for an effective intra-family communication was larger.

The intra-family communication most often was about who should be responsible for dinner, who should pick up the children from their day care and schools, and who should be responsible for the leisure activities in the evening. These questions were, of course, dependent on family configurations but all had these daily contacts. One mother said: “Since we got the mobile phones we don’t plan our days as well as before and lot of the calls we make shouldn’t need to be done.” At the same as she is somewhat critical to the new ways of communicating she also acknowledges the easy way of connecting with other family members.

Another interesting area concerns the question of who should be responsible for initiating the intra-family communication as well as who is responsible for bringing agreed decisions to a conclusion. Most often, in reality the mothers had the main responsibility for initiating intra-family communication and bringing
agreed decisions to a conclusion although several of the families stated a fifty/fifty share. Actually, it was quite rare that the father had the responsibility. In line with this, Orth-Gomér [5] showed that male managers had one peak in their stress curve in the middle of the day while female managers had one in the middle of the day and one in the evening when the unpaid work at home begins. The fact that the mothers more often are responsible for initiating the intra-family communication as well as for bringing agreed decisions to a conclusion is an interesting finding regarding the development of ICT applications since they are the ones most benefiting from it. Earlier research has also shown that women have another approach to technology than men [6]. Women tend to see technologies as a pure tool meant to ease up their lives and not as a good thing just by itself or as a tool for entertainment such as, for instance, computer gaming. Concerning computer games users of this are, more or less, only men. Aune [6] categorize users of personal computers into three different groups depending on kind of relation to the computer. In the first category the personal computer is perceived as a work tool, in the second both as a work and a leisure tool, and in the third the using in itself is in foci. Among these, women are most likely to be found in the first. Women do not use the personal computer just for fun or entertainment and therefore the usefulness becomes central.

To finalize, although the respondents in this study seemed rather satisfied with the intra-family communication within their families they were open for improvements. One such suggested improvement was ideas about a calendar possible to synchronize between family members. Out of this, an ICT application was developed and tried out by 13 families.

4 Study 2

4.1 Test pilots and procedure

Thirteen families with children volunteered for the trial set-up. The families consisted of two parents in the ages between 25 and 48 years. There was between two and three children in each family. The ages of the children varied between 1 and 20 years of age. Each parent, or test pilot, was asked to judge their family’s interest in new ICT applications and their competence in using them. The results show that all families were highly interested in, and experienced with, using ICT. On a 7-point graphical scale the average of interest and experience were 5.6 and 5.4, respectively. The ICT applications used for the trial set-up were possible to reach from the family’s own homepages and they were protected by individual user names and passwords.

4.2 Material

The trial set-up originally consisted of four different ICT applications but only two of them, the Bulletin Board and the Shopping List, were applicable to the problems described by the families in Study 1. On the Bulletin Board it was possible to post notes of activities to bring to a conclusion. The notes could be
sent to the mobile phones used within the families and they were possible to reach from any personal computer connected to the Internet. The Shopping List was a complement to the Bulletin Board. Items that were to be shopped could be typed in onto the list and then picked up by the mobile phone.

4.3 Evaluation of the bulletin board

The Bulletin Board was used by all test pilots and it was the application that got the most positive reactions and, hence, perceived as the most useful. However, there were also some drawbacks such as, for instance, the placement of the personal computer within the home as well as the necessity of always having the computer running. “The computer isn’t accessible all 24 hour of the day like the fridge door is”, in other words, it is easier to put notes on the fridge door than to go to the computer, warm it up, and start using it. Another thing that was criticized was that it was impossible to send a note just to one single family member. All notes sent reached all the members of the family. Finally, some responses to the trial set-up:

- Useful but it would be better if the note could be sent to a specific person.
- It was useful in that the other family member could get the notes via SMS.
- The best thing is that the notes could be sent by SMS.
- The idea with the Bulletin Board is good but it becomes somewhat crowded when the notes are placed over each other. We miss the opportunity to prioritize the importance of the notes.
- To hard to use it is much easier to write notes on paper or make a phone call.

4.4 Evaluation of the shopping list

The Shopping List was a complement to the Bulletin Board and it was introduced in the middle of the test. The response to this application was quite negative. It seemed difficult to use and there were problems with connecting the list with the mobile phone. This was supposed to be done with the help of a WAP service but it didn’t really work. Some responses from the families were:

- Didn’t really get it to work.
- Good idea. A little bit tricky to distribute the list to the cellular phone.
- Hard to let go of old routines (paper end pen).
- Perfect, easy to use and really useful with the handheld computer were you can draw a line over the things that you already have picked.
- Haven’t used and can’t see the usefulness of this solutions.

4.5 Further trial set-ups with improved equipment

Two of the families were given the opportunity to try out improved versions of the Bulletin Board and the Shopping List. The improvements consisted of a
handheld computer. One of the families seemed very satisfied with the improvements while the other was more negative. The former perceived the improved version as easier to use and that the graphics as better while the latter thought that the only thing that had happened was that there was an additional applicant to worry about. Although the response was somewhat negative it probably is important with which equipment the applications are tried out.

4.6 Time as a limit

An important issue is what the families refer to as lack of time. When the families described why they did not use the solutions more frequent they referred to lack of time” Takes to long time, - It takes time to make a new technology a part of everyday life, - Lack of time”. This is of course of interest when doing user tests. Maybe the test period should had been over a longer period of time than the 6 weeks this test run. Moreover, the test period was scheduled in late spring and it could be that this time of the year is the busiest and, hence, there was no time for learning the new technology. Although these solutions were created for saving time they were more perceived as consuming time.

5 Discussion

First and foremost, the results of the above presented studies show that the families that participated had a huge interest in, and were quit experienced with using, ICT. Moreover, that the everyday life of the families of today seemed to be quite stressful and that they had some problems with the logistic communication within their families. The Bulletin Board and the Shopping List were designed to solve these problems. However, the participating families were not overwhelmingly enthusiastic about more ICT applications and the disparity between the designers’ point of view and end-users are still obvious. The Shopping List is a good example of what is called user unfriendliness. It is also clear that it is not common that people use ICT just for the fun.

In only one case the placement of the personal computer could be considered as central while it in all others was in the bedroom, or the children room, which clearly hindered its use. And ease of use and usefulness is central aspects in designing new ICT applications. It is also of importance to further study if users really are interested in additional applications or if existing ones could be redesigned to include new inventions.

As mentioned the time aspect seems critical in adjusting to new technologies both in general and in more specific cases like this. This problem could of course be a symptom of this specific test set-up but probably it also tells us a lot of how the situation in everyday life is.

In every part of human life were communication is done over distance it is important to consider what the social consequences might be. Maybe some part of the resistance against ICT might be traced back to the human need for factual meetings rather than just meetings in virtual environment?
References


