CAPTURING SENSE MAKING OF IT-USE

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Within the last decade, IT has made its way out of the offices into new use domains such as our everyday lives. These changes bring about extensive consequences such as for instance, new or altered driving forces than the traditional that legitimate IT-use within organizational contexts. So far, the interest in research of IT-use in everyday life has been quite lukewarm – the understanding is far from fully captured and understood. This paper is our contribution to this understanding. By a phenomenological inspired examination of two people's intriguing IT-use, we create understanding about the challenges related to capturing sense making of IT-use within people's everyday lives.

Keywords: everyday life, IT-use, sense making, phenomenology, virtualization and domestication

1 INTRODUCTION

With its take-off in the sixties, the prior context for IT-use has been offices within organizations. Today, due to major concentrations on the development of IT as well as an increased access there of, we are witnessing a shift in terms of permeated contexts. Apart form the traditional use domain, IT is now spreading towards our everyday lives. This change brings about both interesting as well as extensive consequences. We can for instance learn about other driving forces than the traditional that legitimate IT-use within organizations. I.e., apart from rationality and cost effectiveness, the need to be entertained or build and maintain social relations seems to be essential motifs for the kind of use that is established within our everyday life (Seipel and Markham 2002).

Even though people's everyday lives have a short history regarding the involvement of IT, a number of researchers report on the phenomenon (Östlund 1999). Meritoriously, this research provides knowledge concerning the extent of Internet use or the most frequently occurring applications. A common interest among many of these efforts is a scientific approach to IT where it is regarded as a tool and quite naturally; it is explored from an instrumental angle. With this attitude, stemming from organizational rationales, there is a risk that we miss out on important aspects such as value and sense making of IT. To learn about people's IT-use in the everyday life domain, it is necessary to move away from the instrumental oriented attitude.

By viewing the everyday life domain, we see that its history does not lack from technology elements. Our homes for instance, have a long tradition of electronic domestic appliances. This kind of technological use has attracted a lot of attention among cultural and social researchers, working with domestication as their primary analytical tool. Reported domestication research informs about what happens when technology is invited into our homes, the process of shaping it to fit our needs and it explains how we shape our homes to make them suitable (Lie and Sorensen 1996). Nevertheless, today we invite a new kind of technology into our homes – IT. This shift brings new, unfamiliar or even remarkable pattern of behavior with it, as well as other rationales and driving forces, than those we are used to. Worthy of note here is not primary whether IT-use offers other prerequisites than ordinary technology and further but rather, if this bring about phenomenon that are difficult to capture with the tools traditionally used within everyday life research.

Empirically, this paper builds on two phenomenological inspired (Ihde 2000) case studies where the subject's IT-use is explored. These cases serve as illustrative examples showing the need for more sophisticated tools when examining sense making of IT-use. Apart from the strive to investigate something as delicate as virtualization movements and people's sense making, this paper explores the capturing of these questions. What approaches, methods and techniques will guide towards an understanding of these phenomena? These questions are at the center of attention in this paper.

The paper is structured as followed. Section two explores the related literature. Section three outlines our methodological considerations and decisions. The following section presents the empirical data. Section five interprets the two cases, while section six concludes this paper.

2 DOMESTICATION, VIRTUALIZATION AND THE MEANING OF REALITY

This section outlines related work of domestication and virtualization. Our intention is to evoke the reader's interest concerning the way IT-use is talked about today. What is further important is to be attentive to what consequences the chosen approach bring about.

2.1 Domestication

Domestication is at its origin referring to humans taming wild animals. Regarding domestication from this perspective, the meaning remains the same, apart from the object that being tamed. Domestication is used in the context where new IT devices are tamed and brought into our lives.

Reported domestication research reports that all people experiences some kind of domestication process as we – more or less successfully – "tame" new technology that is brought into our homes. Berg (1996) defines domestication of technology as that point in time when families invite the technological artefact in to their home and make it a part of their domestic culture. Accordingly, it becomes a natural part of the family structure, its morals and values. Aune (1996) on the other hand, regard domestication as a two-way process, where new technology is adapted to everyday life at the same time as everyday life is adapted to technology. Domestication of technology is in this respect, more like a dialectic movement. In fact, Aune (ibid) discuss domestication in terms of a two-way process that involves both an individual- and a household level. This definition is based on Silverstone & Hirch (1992), who talks about dividing domestication in to four parts – appropriation, objectification, incorporation and conversion. Appropriation is when technology becomes physical and mentally available for the household. Objectification reviles the household's aesthetics and cognition in relation to where they physically chose to place the new technical artefact. Incorporation is the part of the domestication process when the object encloses with the everyday duties. Finally, conversation represents the relationship between society and the household. In this phase Silverstone & Hirch (ibid) notions and meaning making are placed on a cultural and belonging level – meaning making of domesticated technology is closely related to extended social contacts and cultural belonging.

We find domestication as a sufficient concept when looking at an overall pattern of IT-consumers collective behaviour. Meritoriously, domestication exposes how people chose to utilize technology or for instance, where IT is placed within people's homes. Yet, by settling with this rather shallow knowledge regarding domestication processes, we believe we run the risk of missing out on important but subtle aspects such as for instance sense making or values created with and through IT.

2.2 Virtualization

In the work of Ågren (1998), he examines a phenomenon, which he refers to as virtualization. Ågren's way of regarding virtualization differs somewhat regarding his point of reference due to other and perhaps more traditional definitions of virtual. It is important to notice that Ågren makes a verbal construction of the adjective ´virtual´. Accordingly, he creates the possibility to talk about virtualization as an intellectual movement, an inclusion of our virtual experiences and actions. As a consequence, virtualization embraces the notion of recreating, reconstructing and moving existing or non-existing objects from the physical world in to virtual environments. In other words, virtualization includes placing our physical world on an, in terms of value, equality with the symbolic world offered by IT. The physical reality thereby integrates with the virtual and together they create a wider definition of what is reality. This might very well alter the way people's experiences of what is real and possible.

Castells (1996) explores the same field in his clarification of ´real virtuality´. Due to his definition, reality equals virtuality since virtuality is something that always has been present in our lives as our understanding of reality is constantly interpreted and communicated through symbols and signs. Accordingly, virtuality is not a unique phenomenon attached to new media such as IT. However according to Castells (ibid), IT can open up for new spaces of actions but this does not imply that IT itself creates new realities, rather it broadens the one we already live in. Michell (1997) says, "The feeling of place in the virtual world is tied to a moment, it is not measurable in square or cubic -meters, it is all about associative references and experiences." This is yet another way of saying that lived virtuality –virtualization – occurs when you transfer physical qualities and emotional values in to the virtual dimension. P Levy (1998) expresses virtualization as the dynamic that can be found in a shared world, in a shared reality.

3 RESEARCH STRATEGY

3.1 Research methodology

This paper aims to create an understanding about people's IT-use within a new domain – our everyday lives. Through the acquaintances of two persons – Linnea and Mats – we will learn about sense making of peoples IT-use and what motifs that are ascribed to it. The examination of these questions is challenging. There is no exaggeration to say it is a delicate assignment to get hold of peoples sense making, meaning structures and rationales. What makes it even trickier is that they are dealt with within a relatively new domain of IT-use. This fact causes an imminent risk to bring our accepted understanding of these issues from more familiar contexts into the uninvestigated one. I.e., our understanding very much run the risk of being shaped by knowledge about IT-use within organizations. This would be unfortunate as it is quite likely that we would end up with no or scarce extended understanding.

To avoid this pit fall, our initial endeavor has been to let go of the traditional way of viewing IT – as at tool with which specific tasks are accomplished. Achieving this means that we need to be open and sharp on the rich ways people relate to and ascribe meaning to IT. In line with this, our research has been inspired by a phenomenological research approach (Ihde 2000). Accordingly, we have aimed to get hold of meanings, structures and essences of a specific lived phenomenon and further, to identify and express the subjective experiences of Linnea and Mats. This is a matter of studying everyday experience from the point of view of the subject, and also, to avoid critical evaluations of forms of social life (Patton 2002). Put into practice, we have aimed to embrace all possible experience phenomena in order to avoid already fixed definitions. This attitude has helped us, or at least made us more attentive, to investigate the phenomenon from a fresh viewpoint without prejudgment or imposing meaning too soon. I.e., we aimed to set aside our known way of viewing things and describe what we saw instead of trying to explain too soon. This is not very easily achieved – quite the opposite – to leave old understandings behind and be open to peoples own experiences and meaning structures, to describe rather than explain is a true challenge! Despite these difficulties, we believe it is an important attitude as it provides support to reinforce the rigor within the work – something especially important as we try to get hold on something so easily questioned or repudiated.

In our efforts to capture people's sense making of IT-use, we have worked with a strictly limited number of subjects. The reason is simply because these are phenomena that are both difficult as well as time consuming to capture. It requires nearness and a reliable relation that takes time to establish. Based on these conditions, we have been following the subjects over a longer period of time. In the Linnea case for instance, we have recurrently set up meetings for interviews and various other activities for more then a year. Due to these fundamental characteristics we have been able to create rich descriptions of the subject's IT-use as well as their everyday doings. These descriptions have proved very useful in our work.

3.1 Data sources and analysis

The data sources were of different kinds; interviews, diary keeping, e-mail correspondence and brainstorming sessions. Our two subjects, Linnea and Mats, have been investigated in various ways. Mats for instance, has participated in an interview and followed during a couple of month via e-mail correspondence. Linnea on the other hand, has been investigated to a greater extent.

Apart from conducting interviews, the work with Linnea has been inspired by Karin Widerberg's memory work (Widerberg 1995). In line with this, Linnea was asked to keep a diary for one day. The purpose was twofold; partly we aimed to fill in on some of the gaps from the interview, but also, we hoped to uncover rich and perhaps even new descriptions of things that are of importance in her everyday life, things that we had not been attentive to during the interview. We also aimed towards reducing the risk of influencing

Linnea with our understanding of IT-use in general as well as hers in specific. While keeping the diary, Linnea was given free rein for how to express herself. In line with other efforts to work with self-reporting methods (Carlell 2001), we have learned that diary notes are valuable in other aspects as well. First of all, Linnea was able to use her own words when describing her IT-use but also, she had the power to set the agenda for what is important. The interview and the diary notes were later complemented by a rather frequent e-mail correspondence. This showed helpful since there were topics in the material that did not prove interesting or examined in sufficient detail until we began to work with the data. After analyzing the diary notes, a new interview was carried out, based on new data derived from the notes.

These data sources were in a final step, complemented by four brainstorming sessions. The main idea was to let Linnea work on her own for some time. Accordingly, we would not be able to influence or interpret her and her doings until later on. These efforts served to avoid a too early explanation of our experiences and thereby, run the risk of not being able to se anything else but what was already familiar. In other words, we strived towards understanding Linnea's motives and meaning structures instead of *our* explanation of them.

4 A TURN TO TECHNOLOGY – AN INTRIGUING IT-USE

This section tells the stories about Mats and Linnea and their IT-use. We begin by presenting Mats and his way of handling the death of his newborn baby by utilizing IT. The following subsection introduces the story about Linnea and her efforts to create a new everyday life with the help from technology.

4.1 Mats – the mourn of a child

Mats, a salesman in mid-thirties, lives in an average sized Swedish town together with his wife. At about the time for the interview, Mats had recently lost his newborn son Johannes. Johannes was born with a fatal heart disorder, which was nothing the parents to-be knew anything about. The disorder was not detected until Johannes was examined after birth.

While waiting for the birth of his child, Mats prepared a web site for his child. The main idea was to provide up-to-date information about the baby for the geographically spread relatives. Soon after Johannes's birth Mats sent e-mails and SMS's to his friends and family, containing the link to Johannes's site. The first version of the web site was published only nine hours after Johannes birth. Besides text and photos, it also contained a guest book. During Johannes's short life, Mats and his wife used a stationary computer at the hospital to be able to monitor visitors in the guest book and frequently update the site with information about Johannes condition. The guest book was at this time, frequently filled with messages. In fact, during his first 24 hours it had more than 1000 hits. It was mainly due to relatives, friends and colleagues, but also total strangers found there way to this rather unusual on-line guest book. A small Johannes community was created with its main focus on leaving encouraging messages, trying to reassure the worried parents.

Tragically, 31 hours after Johannes's birth, his little heart could not make it any longer. Johannes passed on to the next world. A couple of minutes after his death, the notion of his death was published on the web site by one of the paediatric nurses. Mats was satisfied with this act as he said, "Lena and I both wanted to stop all incoming encouraging messages that said, he will make it or everything will be okay. I guess the people writing those messages would feel really bad when finding out that Johannes was dead by the time for their postings. Therefore we decided to support the nurse as she published the tragic message. After that specific publication, we began to receive other kinds of comments in the guest book…".

Johannes is buried next to his grandfather in a town in the north of Finland. This implies that Mats and his wife have to travel quite far to be able to visit Johannes's grave. Mats assert that this distance does not matter since Johannes web site fills the function of a memorial place. Mats visit the site at least once a

day, sometimes more often. A few months after the funeral, Mats and his wife decided to go on a trip to Greece to get away and reflect on their thought and memories. While in Greece they visited Internet cafés as often as possible to be able to connect to Johannes's web site. "The people in those cafés must have thought we were crazy as we hired a computer each and then sat in front of our screens and just cried. However, for us it is very important to always have access to Johannes's site. I guess we will always regard it as a memorial place."

When visiting Johannes's web site today, one can see that it contain the whole story of Johannes - facts and pictures from his short life as well as his death and funeral are published. Even though almost two years have passed since the death of Johannes, a vast number of people are still frequently leaving messages in the guest book. The memory of Johannes does not only live in the hearts of Mats and his wife – it is also cared fore on a web site, visited of hundreds of people every week.

4.2 Linnea – the design of a new everyday life

Linnea, a woman in the middle of her forties, lives in an average sized Swedish town together with her teenage daughter, her dog and the cat. Rather abruptly, Linnea had to face extensive changes in her life, as she got sick-listed from her job as a secretary. In such situation, it is not a matter of course what path to choose. What Linnea did, as she three and half years ago was declared ill, was to turn to technology. The fact that broadband was installed in her residential area brought about an unlimited possibility to access the Internet. With the help from IT, she slowly began to shape her new everyday life. Within the remaining part of this subsection, we will learn about how the forming of Linnea's new life is manifested.

An ordinary day in Linnea's life begins at nine am as the alarm clock rings. The premier thing on her mind is to get up and turn on the computer – she is anxious to see whether there are any new e-mails waiting for her. "I am so curious, I just have to check my inbox." Simultaneously as she prepares the breakfast she activates her e-mail program, web browser and ICQ-program. The breakfast is enjoyed in front of the screen while replying e-mails and skimming through net-based newspapers. Around 9.45 as the breakfast is finished, it is time to take the dog for a first walk.

Back in the flat again, Linnea gets to work on newly incoming e-mails. Carefully she goes through the inbox and answers the messages in turn. Concurrently, the ICQ-program demands her attention since the messages are pouring in constantly. Linnea regard these ICQ-contacts as her current circle of acquaintances. "Current" is deliberately chosen as to her habit of weeding out people from the circle. Linnea says her interest in people who do not contribute in any way is somewhat limited. Nevertheless, she cannot maintain all of her acquaintances online – some lack an Internet access. These people are still considered her friends – if they are pleasant. But as she says a little playful "…they have to be really nice".

Up until three o'clock, Linnea's day is more or less spent in front of the screen. For instance, she helps other ICQ-candidates to download and register as members, she spend her time reading web-based newspapers, contacting politicians via e-mail or attend web-based investigations. Linnea does also visit web pages where she can chat with people – an activity that usually generates lots of new contacts. Linnea once visited and registered as a member on a new web site that, after three hours, had generated 180 new e-mails. What is remarkable is that Linnea answers them all as she says, "…I do not want anyone to think I do not care." Besides the contacts that are established online, Linnea are nowadays handling her former phone friends via her ICQ. Instead of lifting the receiver, she uses her ICQ-program to arrange for dog walking company. Perhaps not very surprisingly, Linnea describe her computer as a contact machine or a working tool.

The remaining part of the afternoon is either spent in front of the screen or together with her daughter who has returned from school. The dinner is prepared simultaneously as Linnea runs back and forth between the kitchen and the computer. Keeping an eye on everything while also managing the computer is possible as to its central location in the residence. Later on in the evening, the activity on the web increases as people who work during the day goes online. At busy times like that, it happens that Linnea lose track of time.

Around 11 o'clock the majority of Linnea's contacts go to bed – too soon according to Linnea who keep up yet another hour.

Maintaining all contacts requires a lot of work. Linnea sometimes think it gets tiring and stressful. When she gets too busy, when "the pulse is getting high and it beeps from allover the place", Linnea turn down the sound level in order to cope. Another way to handle a stressful week is to visit the weekend cottage. While there the calmness and silence is enjoyed. Linnea says the weekend trips do not bring about any huge loss over her computer. Rather, it is the opposite. On Sunday afternoon when she has returned to town, the computer is switched on again.

As Linnea is sick-listed, she visits a doctor at regular intervals. The doctor usually asks her how she manages to make the clock tick. A bit surprised, Linnea explains that she does not experience any boredom; rather there is not enough time during a 24-hour period. A well-founded question is how many hours that are spent in front of the screen. "Oh, such a terribly amount of hours…I am luck I have my dog, very lucky. Otherwise I would probably have had a lot of shoulder injuries." Linnea estimates the number somewhere between six and nine per day. At times when she gets to engaged with her doings, the clock is set to remember things such as to sweep the kitchen floor for instance. Else, it actually happens that she gets surprised when the daughter returns from school in the afternoon. A whole day may have passed without her being aware of it.

Linnea recurrently state that it is nice to get away from the computer every now and then. At those times she becomes aware of how calm everything can be. From time to time, she thinks her use is too stressful. After giving it some thought, Linnea says she does not think the frequent use is good for her due to the state of ill health. Thus, it is so amusing. "I use to think, what would I do if I did not have my computer? I do not know, perhaps spend more time with my dog." The computer is something "instead of" as Linnea expresses herself. Conclusively, she strongly believes that the day she gets back to work, everything will be different.

5 CAPTURING EVERYDAY IT-USE

In the former section we learned about Mats and Linnea and their IT-use. In common for the two stories is that they faced extensive and existential changes; Mats due to his newborn child and Linnea as she was put on the sick list. What is interesting is their choice of path – they both turned to technology in intriguing ways. The ingenious ways of inviting IT into Mats and Linnea's lives can only to some extent be explored by discussing their domestication processes. To be able to fully capture their use, we believe we must sharpen our analytical tools by adding virtualization to our understanding. The following two subsections will be spent discussing these questions. What will be further outlined are the methodological challenges related to effort of capturing IT-use within the context of people's everyday lives.

5.1 The virtualization of life

When it was found out that Johannes was ill, the Internet site did not only came to serve as a traditional homepage, it became a link to the outside world – something that could be communicated through or used to share ones despair, fright and grief. Due to IT, it became possible to be with Johannes as well as correspond with relatives and friends during their son's short life. In line with Castells (1996), IT extended the space of action and it is difficult to argue that what happened was not part of the lived reality of Mats and his wife. The fact that Johannes site nowadays serve as a grave and memorial place, implies that Mats IT-use has become even more virtualized. He literally says that this site moves him as deeply as the physical grave. Bizarre or not, Mats has assimilated IT and made it into natural part of his life.

Based on Linnea's IT-use, one can say that she virtualizes her social life in the same way. IT-use seems to be almost a prerequisite to be included in her circle of acquaintances. It is fascinating to see how she dif-

ferentiates between those who have access to computers and Internet, and those who do not. The ones with the "proper" basic conditions (in other words the ones that uses computers) are more likely to become part of her social life. Her somewhat playful comment regarding the fact that those without computers have to be really nice in order to remain her friends is perhaps not so far from the truth. As a matter of fact, the majority of the people she interacts with during a day do have access to computers. Instead of lifting the receiver arrange for dog walking company, Linnea nowadays send ICQ-messages to set up a meeting. Linnea seems to ascribe the computer a level of significance, corresponding to something constituting her everyday life. These are all examples of how Linnea actively construct her everyday life. In line with Ågren (1998) and Levy (1998), Linnea's actions can be seen as a virtualization of a shared computerized world.

5.2 A captured IT-use

As mentioned earlier, domestication processes are not keen enough to capture Mats and Linnea's sense making of their IT-use. Domestication processes informs about what happens when technology is invited into our homes and the process of shaping it to our needs et cetera. In our efforts to explore something as delicate as people's lived experiences, virtualization provides an ability to capture deeper, subtler values. In search for this kind of understanding, we follow a phenomenological attitude, simply because we cannot see any other alternatives. The attitude provides help to uncover the rich and many ways of which IT is revealed in our everyday lives, it help to take the actual meanings that people ascribe their IT-use seriously.

While putting this attitude into practice, it has proved rather challenging. What has made it even trickier is the setting in which the studies take place – the everyday life. Something that such studies are marred by is simply how to get access to people's everyday lives, what forces will make them willing to open up their private life for research? In the Linnea case, we pay with our time and efforts to establish a quite personal relation and in turn she makes herself available to us. Gradually, we invest quite a lot in her and accordingly, we become dependent on her participating. This may very well become a dilemma - Linnea can close the door for us any day.

Another challenge is related to the payment in terms of a relation to the subject. As for instance, when Linnea undergone the brainstorming sessions, the outcome proved too personal and frankly, not very useful to us in terms of research. Yet, for Linnea and in the light of our established relation, it may serve certain and indeed valuable purposes. This is an outcome of the fact that we had to establish a personal relation. Balancing between upholding a relation as a condition for being able to take up her time, and conducting fruitful research, has proved challenging to us.

6 CONCLUSIONS

This paper constitute our efforts to capture sense making of people's IT-use - an aim highly relevant in today's IS research. However, while working with earlier versions, we received recurrent comments in line with "ok, that's a cute little story, but so what?" or "how bizarre, he must be really strange". Perhaps it is little surprising that people experience other people's ways of life in this way since few of us share the same frame of reference. Yet, it is important that we do not establish and feel confident with an understanding that what is unfamiliar to us, is unusual and strange. By putting norms building on "the familiar" aside, we can elaborate on the idea that everything might not be as unproblematic as we think. In order for us to achieve this we must learn to regard things a bit more critical. We suggest that following a phenomenological attitude opens up for such important possibilities. Hopefully, the above comments on Mats and Linnea may then be seen as one-off events of people's inability to go beyond what is first experienced as puzzling and perhaps therefore, difficult.

Further, domestication of IT in households is already in vast progress in most European countries. Doing research on the arrival of IT in people's everyday lives requires fine and sufficient tools in order to capture the complete impact of this movement. We agree that it is quite easy to get blinded by obvious user patterns but however, with this paper we argue that it is important to look beyond this polished surface. While conducting our empirical studies we found that a toolbox consisting of domestication exclusively is not enough. Accordingly, we suggest that by adding virtualization to our understanding we were able to shed more light on aspects that are not fully captured in today's reported domestication research. By using domestication and virtualization as building material, we strongly believe that it is possible to capture a deeper knowledge on people's sense making and meaning of their IT-use.

Conclusively, We have learned that focusing a few people's experiences of IT-use offers a vast number of questions and topics to explore. In line with Monteiro's call on the IS research community to begin to pay its interest in the ways in which IT is revealed in everyday life (1998), we will continue to explore this questions with Linnea and Mats as well as with other IT-users.

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