



Telework

- Experiences of technostress in telework environments.

Sandra Ericsson

Department of informatics
IT-management
Master thesis 2-year level, 15 credits
SPM 2016.33

Abstract

The adoption and use of information and communication technology (ICT) solutions in companies are on the rise and with this rise comes several health effects. One kind of these health effects, called technostress affects employees and self-employees while using ICT for telework. The aim of this study has been to create a deeper understanding of the factors that are stressing employees and self-employees that has the opportunity to work flexible work hours using ICT. A qualitative research method including interviews has been used to gather data for this thesis. My findings suggests that awareness of the stress factors in different areas makes it easier to avoid getting affected by them. These stress areas are (1) reachability, (2) ICT and flexible work hours, (3) Work, information and technology overload and (4) Separation between work and leisure. I expect that this study will contribute to broadening the awareness of these stress factors.

Keywords: Telework, technostress, flexible work.

1. Introduction

Information and communication technology (ICT) has long been viewed as the engine behind a new economic revolution (Tarafdar, D'Arcy, Turel & Gupta, 2015). The expectations that information and technology would significantly shape the nature of work has emerged over time ever since the start of the development of ICT. The pace of technical change appears to still be accelerating, from agriculture to the ability to gather and process large data amounts across time and space (Forman, King & Lyytinen, 2014). Companies and their employees are under pressure to keep up with the information stream that today is accessible from multiple devices. Remote work and flextime in combination with real time information feeds affect people's health status (Tarafdar et al., 2015).

Majority of ICT research presents the positive sides of ICT as it can increase the speed of processing data, as well as increasing the reliability, the portability and user-friendliness of data. However, Tarafdar, D'Arcy, Turel and Gupta (2015) states that there is still a gap in the research where stress, due to technology, is not yet fully researched. As ICT is used in merely all organizations it is of importance to study the affection it has on self-employees and employees health.

A common thought is that you do not have enough time, even though you are constantly trying to be efficient. People believe that computers, smartphones and a fast Internet connection is going to make them more efficient and productive, but in the end we seem to have less time rather than more. The information employees are receiving has increased and they are expected to handle it within the same or even in a tighter timeframe than before (Tarafdar et al., 2011).

The course of nature is not faster though - we still have 7 days a week, the years are still as long as before and we still have four seasons. The challenge is that ICT and Internet are operating all hours of the days and nights. Data and information is available and updated around the clock but a human being is not. Therefore, we may feel like we have too little

time and since we count time in money we need to be faster to make more of it (Karlheinz Geibler, 2015).

Against this backdrop the aim of this thesis is to create a deeper understanding of the factors that are stressing employees and self-employees that has the possibility to work flexible work hours through ICT.

The research question is:

- What are the main stressors experienced from usage of ICT while working flextime hours with telework?

This thesis mostly focus on how technostress is experienced while working with telework. The stress research area is broad, technostress has been studied since 1984 (Brod, 1984). Although these studies establish the importance of technostress, it is not clear how ICT create stress for employees that can work independent of location with flexible work hours (Ayyagari, Grover & Purvis, 2011).

This research is important for ordinary people who daily strive to shape their lives in accordance with their respective conditions and fundamental values. There is a need of a deeper understanding of the affections that ICT has when it is allowed to take an ever larger space in the human lives. A need to examine to what extent the private and professional role can co-exist. The results of this study can also facilitate for companies that care about their employees' health and level of stress, as the health issues in relation to work has increased by 72% between 2010 and 2014 in Sweden (Arbetsmiljöverket, 2016). Finally, this study is of importance for researchers that in similar ways strive to create an understanding of the relationship between humans stress level and digital artifacts.

2. Related research

Information and communication technology (ICT) has been used by companies and their employees for decades to cost-effectively perform work assignments in order to generate profit. Åborg (2002) claimed that very much soon essentially everyone in the work force will be influenced.

Previous research on the growth of ICT use has mainly focused on positive examples and therefore the affections of the growth of ICT are not fully understood. Against this backdrop a gap in research about health affection associated with ICT use has been identified by for example (Kling, 2007) and (Tarafdar, D'Arcy, Turel & Gupta, 2015). Telework in relation to flexible work hours and technostress is still relatively unexplored.

The usage has increased at a rapid and steady pace since the computers where introduced at the workplaces during late 1970. At 2002 around 3 million people in Sweden, which is 66% of the Swedish work force, used computers to accomplish worktasks (Åborg, 2002). According to the surveys on computer use performed by Statistics Sweden (SCB), the proportion of computer users in the Swedish workforce increased from 24% in 1984 to 32% in 1989 and 51% in 1995 (SCB, 1995). World Economic Forum reported that ICT boosted world economic output by nearly 200 billion US dollar and created 6 million jobs in 2011 (Tarafdar, D'Arcy, Turel & Gupta, 2015).

A workplace-oriented definition of usage of ICT is no longer completely accurate. Lindblad-Gidlund (2005) claims that today we are also using ICT in other more private situations than in a work context. A total of 7 million Swedish people, or 91 percent, aged 16-85 years, had access to computer at home in 2013 (SCB, 2013).

Therefore, there is a need to study the usage of ICT from another perspective, in the context of being both a private person and a work professional.

Åborg (2002) states that the introduction of computers in working and private life has had a tremendous impact and changed the nature of many jobs and the whole work situation for a great number of people. As the use of computers has increased, health concerns and reports of negative effects on users' health have also increased steadily since the early 1980s.

Åborg (2002) has identified a need to be proactive so we can influence the ICT of tomorrow together with a need to gain a better understanding of the ICT affections of the employees and self-employees, to improve the way we use it, our attitudes towards it and how we relate to it.

The ICT per se is not the only essential issue but also the ease to reach a massive amount of information. The growth of information over time is evidential and the amount of accessible information is now a distinctive mark for this age. The exponential growth of the internet, different kinds of databases and partially uncontrolled growth of information is a great source for innovation but also a challenge to cope with (Kallinikos, 2006).

"Information has always been intimately related to work processes. For example knowing how to hunt, when to plant crops, how to pull together a meal, how to shape metals, how to build or use machines. Work is now knowledge related, abstract, distributed, global, and information intensive, and draws on the use of multiple technologies." (Forman, King & Lyytinen, 2014, p.1).

Smartphones, computers, laptops and tablets are tools used to reach and deal with all this information. Technological innovation, in turn, establishes favorable conditions for further information growth and access. Usage in relation to work also enables people to work whenever and wherever they prefer (Kallinikos, 2006).

The word 'Smartphone' was introduced years ago but the meaning has been changed over time. People started to use smartphones instead of mobile phones or cellular phones. The smartphone offers more advanced functionalities and connectivity. In terms of functionality, smartphones complete many of the same tasks as an Internet connected computer. They have become a necessities in people's lives (Lee, Chang, Lin & Cheng, 2014).

Today's smartphones allow users to call, text, e-mail, video conference, microblog, interact on social-networks, surf the Internet, watch and share videos and pictures, play video games and utilize a tremendous array of software driven applications. Unlike desktop computers smartphones allow the user to connect to these functions virtually anywhere and anytime. Lepp, Barkley and Karpinski (2014) advocate that it is worth considering that this might have implications for the user's behavior, which extend beyond the realm of communication.

Portable technology with Internet connection eases the way to consistently stay connected to other people or businesses, at any time and place. Smartphones has been developed and increasingly integrated with people's lives in the last decade, both for social and professional use. It has become a part of daily life. Previous research also claim that users are becoming addicted of their smartphones (Pitichat, 2013).

Despite this, smartphones has a potential to increase employees engagement as it can be used as a tool for social connection. For example, to promote autonomy, relationships and knowledge sharing with coworkers as well as employers. That, in turn can lead to job satisfaction and contribute to work efficiency (Pitichat, 2013). Smartphones can also be used for entertainment or to ease stress although it could also lead to a lack of control and create persistent activity of the usage (Lee et al., 2014).

However, smartphones can make employees stressed out. Employees tend to bring stress from work into their private lives because of the challenge of separating work from their private lives when work hours are blurred (Pitichat, 2013; Chesley, 2005). The feeling of a constant need of being connected can also lead to workplace-related-stress (Rush, 2011).

Laptops has taken over the desktop computers to make the work more mobile while tablets are increasing the mobility even further. Tablets is growing into the businesses and is for example seen at restaurants for food orders (Endler, 2013) or at airport at satisfied customer surveys and car rentals (Stelmie & Olberding, 2012). These devices increases the mobility, reachability and leads us into a work approach called telework.

2.1 Telework

The recent evolution of smartphones, tablets and laptops is an example of a start on a longer trend. During the 1980s and 1990s, a rapid development of ICT suitable for use in private homes emerged. Development of cheaper and better technology devices facilitated the private use of digital artifacts and Internet has created an opportunity to communicate globally from home (Åborg, Fernström & Ericson, 2002).

There exist several different definitions of telework, in this thesis I go with the definition in line with Åborg, Fernström and Ericson "The use of ICT to perform office work at home rather than from the ordinary workplace". As there is no generally accepted definition of the term telework, there are no exact figures on the number of people engaged in telework (Åborg, Fernström & Ericson, 2002).

All kinds of flexibility, as in space, time, salary, legislation, etc. are yet "trendy" concepts in modern work life. In the development toward increased flexibility in working life the concept of telework, in different forms, has been presented as a solution, both to employers and employees' difficulties. Therefore digital technology has found its way into other everyday contexts such as home and leisure (Gripenberg, 2005). Computers are for example used to play computer games, chatting or blogging for entertainment or to create and maintain social contacts. While usage for work life revolves around the motive of efficiency and rationality (Croon Fors, 2006).

The fact that ICT can be used at both work places and at home transforms the once fairly clear distinction between home and work through the opportunities granted to execute work-related tasks from home, as well as the opposite, to perform personal business from the workplace (Nyberg, 2008). The meeting and balancing act between the

professional and the private is also discussed by Ward (2006). He is focusing on people that conducts their work exclusively from home and thus have no physical work to visit. Ward (2006) claims that people strive to, by using rules and procedures, clearly distinguish the different roles of professional and private. People aim to divide time in so-called work time and family/leisure time.

Taken together one can note how existing research presents positive sides but also the challenges of telework. The change does not only include opportunities in the terms of, for example, reading work-related e-mails from the kitchen table or when traveling back and forth to work, at home or at the consumer store. It also brings challenges related to how the digital artifacts are to be handled and how it affects users health (Nyberg, 2008).

The positive sides of receiving notifications for e-mails might soon turn into a stressing factor as the employee gets reminded of work by the sound and with a number showing how many e-mails are waiting (Ragu-Nathan et al., 2008).

2.2 Technostress

Stress is a concept that does not have a generally accepted definition. It is a term that has a number of different meanings, both in everyday life and within the scientific community. That makes the concept somewhat elusive. Yet, it still manages to capture very important aspects of most peoples' work life, it has a great impact on the work life research. The term has grown from physics and technology with focus on load, stress and strain. Stress was a force that affected physical material, as a pressure and strain on the material and stress is the effect that comes with it. In work life stress is the pressure and strain coming from the amount and severity of an assignment that is expected to be done within a specific timeframe. Stress is the perceived demands this puts on the individual (Åborg, 2002).

The concept of stress became increasingly common in biology in the beginning of the 1900s and slightly later in medicine. Researchers examined biological reactions as acute stress, a form of stress that threatened the survival of the organism. Walter Cannon is usually described as the pioneer in stress research about humans. He described stress as a "fight or flight-response", a term that is still used today. It is commonly known that it exists two sides of stress, both positive and negative. Negative stress is associated with negative feelings as aggression or anger, whereas positive stress is associated with stimulation and positive energy (Åborg, 2002).

Work-related stress has increased in the past years and is a growing health problem. ICT development and increased use has a close connection to the negative effects on work environment, health and well-being caused by a more flexible, insecure and less stable work situation (Åborg, 2002). This does not only affect the employees themselves but also the company as a whole because of the reason that an stressed employee can decrease his or her output by 38%. Stress also leads to 32.000 employees on sick leaves due to burnouts and 200 deaths per year (Arbetsmiljöverket, 2016).

Tu, Wand and Shu (2005) confirm this in their study with a statement about how computer-related stress, namely technostress, affects the employees productivity negatively and is therefore costing companies tremendous amount of money.

The clinical psychologist Craig Brod coined the term Technostress in 1984, which is described as one's inability to cope or deal with ICT in a healthy manner (Brod, 1984). Brod states that computerisation affects an individual's behavior, the personality and the

relationships to other people. There is a challenge for some people to adapt and conform to ICT in a healthy way and they may develop what he sees as a new type of disease, namely technostress (Åborg, 2002). Technostress is recognized as any negative effect on human attitudes, thoughts, behavior and psychology as a result of directly or indirectly affects from technology (Tu, Wand & Shu, 2005).

It is proven to be challenging to actually know how to relate to an increasingly digitized everyday life. Previous research shows that ICT and computerization of the office work environment are connected to higher level of stress among employees with the greatest affection on older employees (Tu, Wand & Shu, 2005). The use of ICT has created an idea that people have to work faster and that they always have to be connected to Internet and to each other (Ayyagari, Grover & Purvis, 2011). Notifications from e-mails, social media or other applications push the employee to attend to the information immediately. This can also increase the level of stress and decrease the performance on complex tasks (Tarafdar et al., 2011). Hemp (2009) shows in a study that the average time it takes to return to work after an e-mail interruption is 24 minutes and by a phone call it takes upwards to 15 minutes.

Technostress is also connected to the fragmentation of work, globalization and the fierce competitiveness of businesses. People are rewarded if they work exceptionally hard, spend longer hours at work and are connected to the organization day and night through ICT (Spruell, 1987).

Furthermore, research claim that the stress has caused compulsive behaviors by usage of ICT. Oulasvirta, Rattenbury, Ma, and Raita (2012) found in their research that their subjects checked their phones 34 times a day because it had turned into a habit. Excessive usage and habitual checking of the smartphone may result in compulsive usage and phone addiction (Lee, Chang, Lin & Cheng, 2013). Compulsive usage could even lead to mental health symptoms such as sleep disturbance, stress and depression (Thomé, Eklöf, Gustafsson, Nilsson, & Hagberg, 2007; Thomée et al., 2011).

Another description, which lines with this thesis is “IT stress”.

“IT is composed of two words, information and technology, both with clear relations to stress and stress reactions. Information stress is mostly due to information overload and technology stress to technical disruptions.” (Åborg, 2002, p. 17).

In line with this quotation, technostress is a result of users experiencing stress due to information and communication overload (Ragu-Nathan, Tarafdar, Ragu-Nathan, & Tu, 2008). The computers, smartphones, laptops and tablets are large information devices and people feel the need to adapt to it in order to keep up with all the available information. Overdependence of smartphones may also lead to compulsive usage and enhance user technostress (Lee et al., 2013).

There are also important stressors that are more directly related to the technology itself as technical disruptions that could happen with hardware and software. Johansson & Aronsson (1984) explains how unexpected long response, temporary stoppages and system disruptions are stressful problems to many computer users. They demonstrated

how users showed quick stress responses to system disruptions such as increased blood pressure and the appearance of different stress-hormones.

Johansson & Aronsson (1984) states that the stressing factors were a feeling of uncertainty and helplessness. As thoughts about what is happening, the fear of making an error, time-pressure and uncertainty and knowledge or lack of knowledge about what to do, Not having enough computer capacity or insufficient technical support are further examples. Nielsen (1993) showed different factors that poorly designed software, staff costs, including education, training and support are also affecting the companies economy when implementing new computer systems. The vulnerability of technology is therefore also a stressor along with the fear of making mistakes using it or mistreating information.

3. Research design

Holme and Solvang (1997) describe a method as a tool to gain knowledge in a specific research area, used to solve a problem of interest. As mentioned earlier this thesis aims to create a deeper understanding of how ICT could affect the stress levels of employees and self-employees with flexible work hours. To be able to answer the research question *What are the main stressors experienced from usage of ICT while working flextime hours with telework?* a qualitative study has been performed with employees and self-employees from different companies and contexts with different genders and ages.

It has not been of an effort to keep the idea of work and leisure completely separated but my focus has largely been on the work-related issues regarding ICT in everyday life namely in the respondent's spare time.

In this thesis I am referring to the type of ICT that contributes to blurring the boundary between the private and the professional and the fact that people therefore have the ability to handle private matters at work to a greater extent and vice versa.

3.1 Research approach

It is primarily the aim of the study that has lead me to the choice of method. Qualitative interviews were performed in order to generate the most useful data to answer the research question. There are of course alternative methods that could generate a response to the research question selected. Although, if a quantitative approach had been used and the topic has been research via e.g. surveys, expressed experiences and train of thoughts of the respondents would be lost. For the method used, the emphasis is on the interpretation of the words, rather than the quantification of data (Kvale & Brinkmann, 2009).

A qualitative data collection method produces large material with high quality, which can generate a good insight into people's perceptions and opinions on the phenomenon, which is something Bryman (2011) also highlights. The aim has therefore been to seek a deeper understanding of an individual's experience of the studied context, which is different from quantitative research which rather seeks to collect a larger amount of numerical data to draw general conclusions that apply to a larger population (Bryman, 2011).

The approach used to chose respondents for this study was a goal-oriented selection, which according to Bryman (2011) is common in qualitative research. With goal-oriented

selection, he means that the researcher selects individuals related to the aim of the researcher's study. The choices of respondents is as Bryman (2011) claims a way to gain a deeper understanding of a context, which in this research is telework and technostress. This was a conscious choice made because it is a suitable fit for this study. The choices are also to the greatest extent balanced in the selection of the respondents in relation to gender, age and work context.

The aim for this thesis was also to capture the respondents own thoughts and experiences instead of confirming or rejecting any formulated theories or hypotheses therefore as Bryman (2011) suggests a relatively low degree of structure in the interviews was suitable.

3.2 Data collection

A significant part of this data has been collected by interviews, both face-to-face and by phone. The purpose of conducting interviews was to receive a picture of the participants' own experiences about the factors that are stressing them while having the possibility to work flexible work hours through ICT. Interviews are very useful to gather both facts and personal opinions (Yin, 1994), which I gained from this study.

Bryman (2011) argues that researchers can use a relatively low degree of structure when conducting qualitative interviews, because it will give the respondents the opportunity to direct the interview towards the factors they value as relevant and important - something that is often interesting in qualitative research. It was of importance for this study to ask open questions to affect the respondents to the least extent with my own opinions. Therefore I used a semi-structured design and shaped the interview template with open questions. See appendix 1. This gave the respondents space to formulate answers the way they wanted. Qualitative method and semi-structured interviews were also used because the experience of stress is somewhat intangible, complex and hard to quantify and as (Ritchie & Lewis, 2003; Myers & Newman, 2007) argues, the openness of semi-structured interviews lay a foundation for flexibility and opens up for further discussion around topics that may rise. The interviews were performed in Swedish, quotations presented in the analysis are translated into English by myself.

3.2.1 Participants

To receive a deeper understanding of the participants', as I call respondents, own experiences of technostress while performing telework I assessed that the individuals themselves would figure as an important source. The criteria for participation in the study was therefore to have the opportunity and experience to work flexible hours, perform work tasks at home and that they had access to at least a few different information and communication devices.

Another requirement was that the ICT was used in relation to work. The informal policy characterized also including the freedom with responsibility. As long as the tasks was performed, the person could decide, at least partly where and when the work would be carried out.

The age of the respondents differs between 26 and 63, two are females and three are males. All interviews where approximately 30 min long and the sound recordings was transcribed. The respondents are referred to as A-E in order to maintain their anonymity

while also making it possible to trace their voices in the result section. I chose my first respondent by asking around for the requirements to participate. Thereafter I used the snowball sampling by following recommendations from the participants.

The five respondents are either employed or self-employed, all from different fields. This created a foundation for a deeper understanding about the difference between being employed or self-employed. Each of them are working 38-40 hours a week, with a possibility for overtime work. They all have access to at least one computer, one smartphone and one tablet, some through work and others has private ones. A few questions were asked after the interview to complete the results.

| Respondent | Work role | Type | Time | Years in field |
|-------------------|--|---------------|-------------|-----------------------|
| Respondent A | Smith and site manager | Employee | 15 min | 12 |
| Respondent B | Accountant | Self-employee | 40 min | 35, 26 as owner |
| Respondent C | High school teacher | Employee | 35 min | 3 |
| Respondent D | Tennisclub manager & trainer | Employee | 20 min | 21 |
| Respondent E | Craftsman in the construction industry | Self-employee | 25 min | 14, 5 as owner |

Table 1. List of respondents

3.3 Data analysis

The interviews were transcribed soon after they were conducted and analysis of the material started when all interviews were transcribed. I started the analysis by reading the transcribed material several times, in accordance with Lundman and Hällgren-Graneheim (2008) recommendations - first quickly and orderly, but then more thoroughly and interpretive. This was followed by a qualitative content analysis of the material. Lundman and Hällgren-Graneheim believes that qualitative content analysis is used to interpret texts, such as printed interviews and that researchers can or should not relate objectively to the material.

When applying qualitative data analysis sentences or phrases contained information relevant to the research question are picked out, which is in accordance with my approach. However, the surrounding text was included, so that the context remained. Thereafter I condensed the respondent's responses in order to shorten the text so that it became more transparent. The condensed meaning units were coded. I chose to first do an open coding to allow for an emergence of core categories and further use of selective coding matching further stressfactors until saturation (Bryant & Charmaz, 2007). Thereafter I merged the codes that were conceptually similar and that reflected the central the messages of the interviews.

Finally, I formulated the descriptive text that offered a coherent and insightful ground for the experiences of technostress in telework environment and added relevant

quotations to describe the context further. The four overarching categories that are identified from this analysis are (1) Reachability, (2) ICT and flexible work hours, (3) Work, information and technology overload and (4) Separation between work and leisure.

3.4 Method discussion

Reflecting on my choice of method and how it has affected my study I realize that I might have conducted the interviews a bit too early into the process. If I would remake it I would have read more literature before I made the interview form. This might have given me an even broader spectrum of results. To make up for this I asked some respondents a few questions after hand that in the end resulted into a more depicted and well-developed chapter of results. I was also carefully asking follow-up questions to get as much valuable information as possible and to make the respondents reflect on their answers. On the other side, with too much related research in mind, it might influence the themes and issues in the questionnaire too much.

My initial plan was to conduct all interviews, face-to-face, but because of the long distances the most interviews were conducted by phone. Telephone interviews is not frequently used in qualitative research, but there is some evidence that answers does not differ that much from those obtained by direct interviews (Bryman, 2011), therefore I offered a telephone interview as an opportunity to the respondents. Drawbacks to conduct interviews over the phone, however, can be that it is not possible to see the individual's body language and reactions, as well as technical problems can arise (ibid.). However, the only difficulties I experienced during the interviews over the phone was that I had to repeat my questions, but the recordings were clearly understandable.

Ideally, one should stop conducting interviews when saturation is reached, which is a point where incremental learning becomes minimal because the material keeps repeating itself (Glaser & Strauss, 1967). For this study several other interviews could be conducted in other fields to eventually broaden the results further.

I know the respondents in various degrees and had the answer to several questions in my head already, I chose to ask them anyway to hear how these people perceive it and how they choose to present the perceived. There is also another risk that the researcher would influence the interview where relationships between researcher and participants are frequent and close. In addition, participants may not report fully to the researcher if they perceive that the information given may display them in a negative light. Therefore I informed the respondents, in accordance to Myers and Newman (2007) that the transcripts and records would be kept confidential and secure. In addition they were informed that their participation was anonymous and that the data would only be used by me and for this thesis.

It is also of importance to keep in mind that when the respondents will most likely not want to display themselves in a bad light they might answer truthfully, but avoid giving out information that can give a bad image of them. On the other side, the respondent may have a lack of trust for unknown interviewer and therefore may not reveal information that might be considered to be sensitive to share with a stranger.

Another positive factor that emerged because I knew them, was that when almost every respondent began by saying that they were peaceful persons, I had knowledge about that it was not really the truth and I could ask follow-up questions or the same question in

different ways so that they developed their answers even more and sometimes started to reflect more on their feelings and experiences.

Respondents usually want to appear knowledgeable and rational and simultaneously they feel a need to share an interesting story that is consistent (Myers & Newman, 2007). When I asked the respondents the questions I gave them time to reflect and share their thoughts.

The type of generalization that could be performed from this study is analytical rather than statistical. The generalization is not made for another population, but rather to a theoretical field (Yin, 1994). This study gives an insight of how the possibilities to use ICT also comes with negative sides as some can have a hard time to handle all the information available or to always be reachable, especially when you do not have fixed work hours. Even though the study is of a small scale with a few respondents, the result shows examples of what the impact of ICT usage can have on employees stress level.

4. Results

This study about stress factors emerging from ICT while working flexible work hours resulted in four overarching categories.

- (1) Reachability,
- (2) ICT and flexible work hours,
- (3) Work, information and technology overload,
- (4) Separation between work and leisure.

Based on the answers of the respondents, the results implies that the experiences differs in terms of the experiences of stress and ICT as well as strategies to counteract stress. Further context and time mattered in regards to whether they experienced a situation to be stressing or not. During this chapter these results will be presented.

4.1 Reachability

Each respondent owns and uses several different ICT artifacts – Smartphones, tablets, laptops and desktop PCs. This creates a number of ways to contact them. Customers, friends, family etc. can call, send a text message, an e-mail or a chat message on one of the social media platforms they are using. In the interviews we discuss whether they choose to always be reachable or not, when and where it is possible to contact them and how this is affecting their level of stress.

Respondent A is one of the respondents that is constantly available. He wants to be reachable at anytime and anywhere, for this reason he is always carrying his smartphone in his pocket. The reason he is reachable at all times is that he wants to work a lot, both on evenings and weekends. He likes the feeling of being needed and express that it was because of this, along with his knowledge, that got him promoted to site manager.

"If I am always ready to work, there will be a bigger chance that they will call me before anyone that is always saying no or does not answer their phones."
(Respondent A)

Respondent C does also feel a constant need to be reachable from work, except by night then she mutes the sound on her devices. She is often checking her e-mail, both during weekends and even now when she is on maternity leave. She express that she wants to answer her students, their parents and her co-workers questions as soon as possible to keep them satisfied. Sunday evenings is important for her to check her e-mail so that she does not miss any changes or news at work for the upcoming week.

"Im checking my e-mail several time each day, especially at work. I check it a lot less on weekends. Maybe once each weekend, at Sunday evening." (Respondent C)

Respondent B on the contrary has chosen to not always be contactable, anymore. She explains how she had a hard time to say no in her first decades as an accountant. She attended all the courses that could develop her knowledge, gave her customers promises that she experienced was close to impossible to fulfill. The smartphone was always in her pocket and beeped every time she got an e-mail and she felt the pressure to respond as fast as possible. However, respondent B says that today she is so fed up with all that vibrates and beeps to indicate things that she has turned off all notifications from the e-mails. Despite that she still reads the e-mails several times a day, sometimes before she goes to bed and sometimes on the weekends. Her customers can also call her outside office hours, but respondent B states that the most of her customers is kind of well-behaved and that they mostly do not call outside office hours.

"I am normally reachable at office hours. But of course, if I am working one evening and customers are calling me for help. I am of course reachable then, but my customers probably know that it is actually working hours that apply. I am not so very fierce about it." (Respondent B)

The fact that respondent B and respondent C feels a need to check their e-mails outside working hours indicates that they have some difficulties to let go of thoughts of jobs during their spare time. That also applies to respondent E which often read the e-mails as soon as he receives them but do not always respond to them. He says that he tries to move the responses to work hours but that he thinks about the response until he answers it.

"I try to move it to the working hours but I read the e-mails - it ends up in the brain then so I am processing it a little. " (Respondent E)

Respondent E also express that he is usually reachable for work related questions by phone from eight in the morning to seven in the evening.

Further into the interviews we also discuss the respondents reaction to spending a day without their phones. Respondent C has by accident forgot her phone at home and says

that she usually panic a bit to begin with but the longer the day goes the easier it gets. She says that is it usually fine to handle calls later, if someone has called. That it is usually not so urgent that they need to contact her right away, if so they can call to the work.

“I have forgotten my phone at home. Quite a few times when I am off to work. The first idea is like - how will I cope with this?! How will I be able to make calls and what if there is someone who wants to reach me, but then I usually get pretty calm after a while.” (Respondent C)

Respondent B had an answer that is not in line with Respondent C’s answer. She expressed that it sometimes feels comforting to not bring the smartphone.

”I almost always bring the smartphone. But I am not obsessed with it. I can be without it. It can be very nice. Sometimes I can choose not to bring a phone when I go somewhere. If you go out or do anything. It is very nice not to be reachable.” (Respondent B)

Respondent B has also experienced interruptions due to calls and e-mails and she express that she sometimes get an exceptionally lot of calls and that it can disrupt her focus.

”Sometimes I get an exceptionally amount of calls and if it is private calls I could get bothered. But even the customers could disturb of course, if I am working with something where I have to think deeper, when I have to be careful or so. Then I am thinking, oh!.. this phone. But at the same time, it must be like that, it is a part of my job.” (Respondent B)

Respondent D has a different kind of work situation where he is not really reachable during most of his work hours because then he is at the tennis court, but he says that he is checking the phone after each session or if he do not have time he is checking his phone in the evening when he is on his way home.

4.2 ICT and flexible work hours

Information and communication technology enable flexible work hours for the respondents. The tennis trainer can work from home after his sessions at the court because his students/customers can contact him for bookings, questions, payments and so on wherever he is. The same applies to the accountant and the craftsman. The teacher gets 10 work hours a week for homework where she can correct exams, plan but also go through e-mails or make and respond to calls. ICT does not give respondent A possibilities to work from home in the same manner, but it facilitates for communication with co-workers and his boss for overtime work.

Respondent C states that she experience these flexible work hours as a great resource. Although, she is working more hours than she gets paid for.

“You get paid for a certain amount of time but you are always available and always looking at job related stuff and yes, you work a little bit all the time actually.” (Respondent C)

She also states that this is the reason that she is having a hard time to totally disconnect from the job.

“As a teacher you want to be updated on what is happening around you and keep track of such things and not just the actual teaching. There is much to keep track of - the media, what happens, that is what you do in your spare time. On the fly.” (Respondent C)

Respondent B has her office at home and sometimes she feel like she is having a hard time to keep to 7-16. She says that there is not so easy to just walk away and close the door but still she do not feel like there has been a big problem for her.

“It is easy to slip into the office if you have a lot of work but, yes. There are both advantages and disadvantages. It is hard to say, it is clear that if it is fun, it is easy to slip in there. Maybe you should not do that, maybe you should have an office out there somewhere where it is harder to go to.” (Respondent B)

She also expresses that when she was younger she made a lot of promises that made her stressed and put her working hours out of balance.

“Sometimes I had customers that I might have been too nice to, that I wanted to please. And because of that you have done the job earlier than you actually could during your usual work hours, you have promised too much perhaps and then you need to work for it too.” (Respondent B)

Respondent D has no specific breaks during the days. He has lectures between eight in the morning and nine in the evening. In between the sessions he is supposed to handle administrative tasks for example bookings, economic tasks, calls and emails. He is able to choose at what times he wants to do it and even the days. It is like respondent E says. It is freedom with responsibility. The tasks has to be handled for the company to succeed, he also says that it was different when he was employed. Then his work hours was not that flexible and he could not decide what to do and when to do it to the same extent.

4.3 Work, information and technology overload

The respondents are struggling to express whether it is the amount of work, the massive amount of information that is available through ICT or the technology itself that is affecting their level of stress. They are all using ICT daily both at work and in their leisure time. It is used for searching upon things at Internet as Blocket and Google. For social media, smartphone games, administration tasks at work. This is for socializing, administrating, marketing aims, communication with customers, for fun or for just making the time fly.

All of the respondents expressed the problem of working long hours and working many evenings and weekends at home. At the same time, they all perceived telework as a positive opportunity to cope with the high work demands effectively. They had been working a little more than normal because of the opportunity to work at home but also believed they had worked more effectively, which was reinforcing.

Respondent B and C expressed feelings of information overload due to ICT. That is excessive information and difficulties to organize the information. Furthermore, they also express that it constantly pops up something new that they feel a need to learn and it is hard to ever get the feeling that they have caught up, the ICT always has an edge that is hard to catch up with, and that there is no way to control or master them. Respondent C who is the youngest respondent feel a great need to always stay up to date, while the respondent B that is the oldest explains how she was always chasing new information, attended lots of courses and so on but that she now felt saturated and that she can be more calm about it nowadays, but she also states that she had to learn it the hard way. Respondent C is now on maternity leave and really thought she were in need of a break.

“I think I want to much. I want to keep up with everything, I want to keep track of everything. I want my students to be successful. I want to have good contact with their parents. I want my colleagues to be able to ask questions and get answers, yes. I seek to succeed with too much I think. It makes me stressed (...) There is much to keep track of.. the media, what happens, that is something you do on your spare time. On the fly. (...) It is not easy to know what to look for, what is relevant and even real. I think it was very nice to get on maternity leave. Because in the end, it got too much. And then, when you are a person who takes on a lot of things, there will be extra tough. Then it will be quite a lot of stress.” (Respondent C).

The most of the respondents stated that once you started to use your smartphone or computer it always seems to be more things to do than planned. Most of the respondents expressed that they easily surf on or do more things online than was planned.

“I do it to avoid having to do it later. If you want to do something else. Any other job, I can do that, I take that too, so it is done.” (Respondent B)

“It happens almost every time. I would say. You start by opening your computer in order to look at any one thing and then you will find several other things, that also can or must do at the time. Actually, maybe you do not have to do that, it might be my brain that plays a prank”. (Respondent C).

Respondent A disagrees to it and states that he only does what he plans to do.

“No, I do not get stuck like that. If I am looking at something. Whatever it is, whether it is job-related or not. It does not matter if it is on the Internet, an article or whatever. If I need to do something else. I will.” (Respondent A)

He means that if there is something else that needs to be done, he just stops the usage of his smartphone. However, Respondent B explains how she during a time in her life experienced that it was too much work, she found it hard to say no and wanted to please everyone. This led to that she needed to medicate for high blood pressure during a time. After experiencing both stress and a smoother more enjoyable pace, she learned how she should handle the work to stay healthy. Among other things, she learned to say no and that she did not have to constantly keep herself up to date of all the news and therefore do not attending all of the courses. In addition, she has also taken actions to prevent the ICT artifacts she uses to affect her stress level. Today, she chooses to work primarily in office, and says that her current clients are well behaved and that they therefore do not call outside office hours if it is job-related. Respondent D also feel like he somewhat needs to be contactable and work flexible work hours as he is not contactable when he is on the tennis court. This results in extra work.

4.4 Separation between work and leisure

All respondents mentioned that it is of importance to separate leisure time from their job, even if they all more or less choose to be constantly contactable. Even Respondent D who plays tennis in his spare time choose to separate the work hours from his interest and says he thinks it is okay to contact him outside in the evenings if it is about his own tennis training, but if it is job-related he prefer that they contact him during daytime. He also mentions that several have begun to accept it more and more, which he thinks is great. He has not been affected by it in a negative manner but he has experienced that his family got stressed by job related calls in the evenings.

“They become grumpy about it. All the calls and that. You could say. I have a hard time to understand it because the calls might be about my training. That is because it is my hobby as well, so to speak. That I am playing myself. Some might think then that the call is about the job but it is for me privately.” (Respondent D).

Later in the interview respondent D express that he do not think of the tennis club as his work, even though he is full time paid. It is a big interest of his.

“I do not see it as a job and that I have never done. I can stay at work and sit for a snack or. It is such a great interest too. I get much pleasure from it. That is my feeling. If it was just a job, it would not have been as fun. If you say that I would stop playing tennis myself and just have lessons, then it would not be as interesting, I think. It must be done in a combination.” (Respondent D)

The fact that respondent D chose not to separate work and leisure. He said that it is his greatest interest, but having flexible work hours and being able to handle private matters when he has planned to work is sometimes wasting some of his time so he postpones some tasks and he has to stay longer at work or bring work home.

“I do not differentiate leisure and work during the day. It is interconnected. So yes, I can probably do that sometimes (use the phone for private issues). It takes time

from work, if I did not have the phone, I might have done more work on the computer when I am working with finances or something like that. So it may happen that I am playing with the smartphone sometimes.” (Respondent D)

Respondent E does also see his job lined with his leisure time which affects his way of handling ICT and communication.

“It would have been different if you were employed and that you sort of must do things. This is like my free time too. So if it is a simple thing then I can answer a text message or an e-mail in the evening. I try to move it to the working hours but I read the e-mails. But it is like.. I have been self-employed for 5 years and you learn how to disconnect and relax even if you are answering a text message. It is included in leisure time too.” (Respondent E)

Respondent C however needs more time to disconnect from work thoughts. In the interviews she started to discuss about the long summer breaks you get as a teacher.

“Yes I usually disconnect completely. A few weeks anyhow. The first two weeks after you have stopped for the season then you are still thinking of work. And then two weeks before beginning of the next season too. But I have four to five weeks in between where I feel that I can just relax and disconnect from everything.” (Respondent C)

4.5 Wrap up - The experience of technostress

The experience of stress do not always seem to be so easy to express. This study has shown that respondents sometimes act without reflecting on what they are doing or feeling. It seems like the understanding of their stress level is often not discovered until the actual conversation with me. Probably this has to do with strategies for how we think we should or would act in different contexts soon become routine and thus fall into oblivion. They become natural, obvious, mundane and turns into something we do not go around and reflect on. Most of the respondents started their discussion about stress by expressing that they are pretty calm persons, but while the interview went along they started to talk about factors that were affecting their stress level and they also realize that they were more stressed than they told me in the beginning.

The strategies to avoid stress do not always seem to be so easy to express either, and again it seems that the respondents sometimes act without thinking about what they are doing or why. The strategies that they are using to counteract stress are often not discovered until the actual conversation with me. Towards the end of the interview I asked a very open question about their idea of stress and these were the answers:

“Stress might be when, if there are many different things maybe, if you have started too many jobs, for example, within work, when I feel that I have to split my focus into different small areas. Then it becomes stressful. That is the most unpleasant stress that I have encountered. If you have too much to do at several different projects.” (Respondent E)

“There are times when you have a deadline, so to speak. When it is a lot of tasks to handle at work. (...) If I feel that it is hard to say no. I got to learn that. So stress is pretty much that it is hard to speak up and it becomes too much. And you can not cope with it, it might be much around it, for various reasons that have happened. One should speak up, say no. Before it goes too far.” (Respondent B)

“I think that there are different types of stress, some stress might sometimes makes us perform better while a persistent stress makes us walk into to a wall. I also believe that we all react differently to stress and one can thus not know when living with too much stress. The stress I have experienced recently is negative. It was too much, when I am stressed I become irritable and must do a lot at the same time, I get tired too. I started to work too much, too many hours each week.” (Respondent C)

Respondent A and B expresses that they seldom or hardly experience stress but that they have seen others around them become stressed and how they react to stress. They says that it is unnecessary, destructive and inhibitory. That the person that is stressed start to focus on the stress more then to actually handle the situation.

The answers about stress confirmed how the interviews unfolded. It is hard to split focus when working without getting stressed, multitasking is challenging which often comes with the inability to say no. ICT creates these pressures and stresses by interrupting the work with for example notifications and calls. Some decide to try to manage all this while deciding to act on the notifications and thus be interrupted in what they are what they are doing at the moment. This leads to multitasking, but as the oldest respondent previously expressed she tried to work like this but experienced negative consecvenses so she decided to remove some of the interrupting factors, the notifications.

5. Discussion

The aim of this study was to create a deeper understanding of the factors that are stressing employees and self-employees that has the opportunity to work flexible work hours using ICT. The area is relevant because ICT usage not only has positive effects on companies and employees but also negative ones as technostress. For this thesis interviews has been conducted with five respondents to build a deeper understanding of this issue.

In relation to my research question: *What are the main stressors experienced from usage of ICT while working flextime hours with telework?* I landed in the following conclusions:

- (1) The possibility to always be reachable could be a stressing factor if one is not able to disconnect for breaks or having a hard time to manage the amount of time they are expected to be reachable.
- (2) ICT and flexible work hours could also affect the self-employee or employees level of stress, because ICT enables one to work extended hours from home, sometimes without getting paid enough.

(3) ICT connects us to an information flow that is ongoing all around the clock. This could cause work, information and technology overload, which in turn might lead to a higher level of stress.

(4) Finally, ICT enables us to work at our leisure time and manage private matters at work. This makes separation between work and leisure a challenge, which also could lead to an enhanced level of stress.

The previous research explored in nearby areas has made it clear that there are valuable benefits to be gained from the usage of ICT but that it is a challenge to manage it in a satisfactory manner that is not affecting the user's health adversely.

As ICT is witnessed to be an important part of companies today I chose to identify a number of stressor that can emerge during telework. Although, self-employees are experiencing that they are less affected by these factors since they started their own companies and could make decisions about the factors themselves while employees have more expectations on them about ICT usage. Self-employment can thus more easily make decisions and influence their work environment.

The self-employees point out that self-employment is freedom with responsibility. They make all the decisions about reachability, work hours, further education and whether to separate leisure and work as well as to what extent, themselves but they still have to get a constant inflow of money.

Each respondent owns at least one smartphone, one tablet and one laptop. This makes them reachable on several platforms. As shown in Oulasvirta et al. (2012), Lee et al. (2013) and Thomée et al. (2007) in addition to Thomée et al., (2011) in the previous research section ICT usage for communication can lead to addiction and the results of this study shows a similar behavior where the respondents frequently check job e-mails on their spare time and sometimes use private platforms as Facebook during work hours even though several of them express that they are trying to separate the job and leisure. The availability of technological artifacts enables a manager to send e-mails with information on a Friday evening and can almost count on the response before Monday morning which for example respondent C has experienced. This also lines with what respondent E said. He had other expectations of him as an employee and that he now as a self-employee can make decisions about when he wants to be reachable and what information he wants to take in. All the respondents own several devices to reach information around the clock and some express that they are struggling to make decisions about how much they have to take in or are expected to stay up to date.

This study has also shown that flexible work hours is experienced as a challenge to handle. The respondents expressed that the possibility of telework is challenging as they tend to work more than expected and sometimes even more then they get paid for. This lines with the studies that Ward (2006) and Nyberg (2008) conducted where they state that the distinction between leisure time and work is not that clear anymore. They also state, partly in constrast to this study, that there is still a will to separate home from work. This study shows that the job can be closely related to the self-employees or employees interest so that they do not really feel a need to separate them. This also lines with the research of (Ragu-Nathan et al., 2008) where they state that employees seldom feels like there are completely off work.

The analysis also reveals how the respondents stress level are affected when something becomes too much or too heavy in the form of information, work or technology. As presented earlier in related research Forman, King and Lyytinen (2014) and Karlheinz-Geibler (2015) shows that the usage of ICT speeds up the work and, in turn, employees try to keep up with this faster pace. The sheer amount of information can be a serious problem, where they feel overwhelmed by it. Several of the respondent's stated that they are affected by this incredibly huge flow of information.

The study made by Tu et al. (2005) showed that older employees were more often affected by stress due to information overload while Tarafdar et al. (2011) as in this thesis conclude that older people experiences less technostress than young people. In this thesis the reason is that the oldest of the respondents has learned how to counteract to much information and stress.

However, the problem is not only quantitative. There is also a challenge to understand and judge the information that self-employees and employees receive and they have problems in distinguishing between what is useful and what is not. It is also stressful not to find the information they know exists, to be afraid of missing important things, to make the wrong decision because of misunderstanding or to not find existing information. Previous research shows that this is a common and very stressful experience and that many people have significant problems in creating a "mental model" of the information and communication system they are trying to cope with. Without such understanding, one runs the risk of experiencing a low sense of coherence, where one's work is experienced as less comprehensive, manageable and meaningful (Kallinikos, 2006).

Kallinikos (2006) also states that information easily gets readily depreciated and out-of-date and in line with what some respondents said - there is always new things to learn and lots of information that you have to try to keep up with.

The results of this study demonstrates that time and context matters in relation to if their stress levels are affected by these factors or not. The responses from the respondents are to some extent contradictory, showing not only that different people react differently, they also show that even the same person may act differently from one time to another. The respondents sometimes feel fine to read and respond to e-mails on the weekends and evenings but that it in other times feels like an exaggeration to answer those outside work hours. This includes for example respondent C who feel stressed about checking e-mails on a Sunday night but that she otherwise appreciates having ten flexible hours that she can use for work at home at evenings or weekends.

The respondents express, in line with previous research as (Ragu-Nathan et al., 2008), that evenings and weekends is somewhat sacred and should be spent with family and friends, but that daily leisure plans matters and plays a big role whether you feel stressed or not by a job e-mail or call. The interest of the job matters too. The self-employee's states that the job is a part of their personal interest too and that it is one of the reasons that they have their own company. It is a difference between a must or a want when discussing the level of stress. It is similar for the tennis trainer that also plays tennis on his spare time. The interest in the job activities matters and his family is more affected by his flexible work hours than he is, maybe because of lack of interest?

The meaning of our words is often ambiguous, and it is not always clear that subjects fully understand the questions asked in interviews (Myers & Newman, 2007). Although there are some conclusions made in this thesis there has been a challenge for both the respondents to actually express what is stressing them and if they are even stressed or not.

This has also complicated the analysis of the data because during the interviews the respondents starts out with telling me that they are pretty calm persons and that they their level of stress are not affected by usage of ICT, but further into the interviews when they are thinking deeper they start to explain for example how they had to remove the notifications or how hard it is to actually keep up with the information that is reachable by ICT. As showed in related research with a reference to Hemp (2009), it takes several minutes to get back into the flow of work if interrupted and the accountant, which have aimed to reduce the stress factors she has experienced, has decided to sometimes distance herself from the smartphone and turned off notifications to stay concentrated with more advanced work task.

Drawing from the non-reflective way of handling stress, we could come to another conclusion that we might be more stressed about the possibilities that ICT gives us than that we actually realize. As Nyberg (2008) stated, much of what we do in everyday life occurs without reflection and is not always something we think or talk about.

Further on, as Nielsen (1993) and Åborg (2002) states there are lots of research about how ICT itself as - training for usage, poorly designed software products, the vulnerability, disruptions, fear or failing, could increase the level of stress. There has happened a lot since these studies. This study shows how ICT today is flexible and intrusive in a different manner. This also gives different results in the study of stress affection. No one of the respondents in this study mentions the factors Nielsen and Åborg did. This could be due to what they are working with and that they are not forced to use overly advanced systems. Although, in my previous theses (Ericsson & Granqvist, 2013; Ericsson, 2014) employees in for example the healthcare sector struggles with these challenges, and unfortunately most people tend to blame themselves when having difficulties coping with technology. Users feel incompetent and stupid and they become stressed because they are worried and then even more worried because they are stressed.

During the interviews for this paper, I was asked how I am experiencing today's ICT and if I get stressed by it. The question has lingered in my mind since then because it touches my preconceptions and the changes it has undergone during the writing of this thesis. In this rounding I will make an attempt to answer the question in relation to the significance of this study.

My experience of being affected by technostress is what motivated me to conduct this study but the technology itself is not stressing me but rather the opportunities that arise because of technology. In similarity with the respondents I also own several technological devices. A private smartphone and a smartphone for work (and several others that I do not use anymore), a private laptop and one for work, a tablet and a desktop PC. I use several applications both for conversations at my leisure time as for example Facebook and Skype. Furthermore, I also have applications for job announcements as I am working as a care provider beside my studies.

I have been working as a care provider for several years now and are called into work by a text message that only requires a yes or no answer as a response. There is a disturbance here between if I want to work and waiting to do it and in other cases where it is more of a distraction if I am already under stress and have a lot on my schedule. I also have the possibility to choose between logging on to a webpage or application to sign up for shifts instead of waiting for the text messages, which makes me look at the webpage several times a day to sign up, the days I am able to work, before anyone else does it.

Beside this, I am also working as an educational support and I got the work laptop and smartphone from the company I am working for. In addition to this I am taking part-time distance courses which include group work with online communication.

All this has been manageable thanks to ICT, with an online calendar, e-mail and other communication platforms for both synchronous and asynchronous communication. This is certainly the positive side of ICT, but it takes a lot of discipline to manage this without getting stressed out – both the large amount of work but also all the communication channels with all the people that want to reach me for different reasons.

Ironically, I almost did not finish this thesis due to technostress. I often chose to turn off the sound on my desktop computer and smartphone to not get disrupted by calls or other notifications while writing, but even then, I got calls on my tablet or my laptop if I forgot to close them.

I started this study with all these experiences in mind but the factors that arose from the analysis were an eyeopener to me and I will keep those in mind to manage further life challenges. To draw a conclusion from my experience – with ICT possibilities arise but there will also be side effects that one has to learn to manage.

For further research one can broaden the interview sample to include respondents that have excessive use of ICT and even more flexible work hours. A company where ICT gives the possibility to work globally could give us a broader and deeper picture of how ICT usage can affect employees' stress level.

5.1 Conclusion

Introducing telework and flexible work hours into a company can enhance work effectiveness; however, it can also result in both an increase in workload and the work-related health stress risks. The pressure of always being reachable and often by several devices, the amount of information that you do not want to miss out on can be stressful and a challenge to balance into a healthy lifestyle. Being able to work everywhere at any time also makes it a challenge to separate work and leisure which is still desirable by employees. As a self-employed person it is experienced to have greater opportunity to turn off ICT and stress by creation of awareness and decisionmaking on how this should be handled.

The results of this study are first of all of use for managers of companies that care about their employees' health and level of stress as it has an effect on the output and the economy of the companies. Secondly, it is also useful for private persons and self-employed persons that want to take care of their health and relations to their surroundings, as family, that also can be affected by their use of ICT. Finally, this thesis is of importance for researchers that in similar ways strive to create an understanding and is further researching the relationship between humans' stress level and ICT.

7. References

Arbetsmiljöverket (2016, 10 March) Utmaningen – en film om den sjuka jobbstressen – with English subtitles, Available at:
<https://www.youtube.com/watch?v=4ZSaBo7nKIM> (Accessed May 31, 2016).

Ayyagari, R., Grover, V., & Purvis, R. (2011). Technostress: technological antecedents and implications. *MIS quarterly*, 35(4), 831-858.

Brod, C. (1984). *Technostress: The human cost of the computer revolution*. Addison Wesley Publishing Company.

Bryant, A., & Charmaz, K. (Eds.). (2007). *The Sage handbook of grounded theory*. Sage.

Bryman, A. (2011). *Samhällsvetenskapliga metoder* (2 uppl.) Stockholm: Liber AB.

Chesley, N. (2005). Blurring boundaries? Linking technology use, spillover, individual distress, and family satisfaction. *Journal of Marriage and Family*, 67(5), 1237-1248.

Croon Fors, A. (2006). Being-with Information Technology: Critical explorations beyond use and design. Doctorial Dissertation retrieved at <http://umu.diva-portal.org/smash/get/diva2:144413/FULLTEXT01.pdf>

Endler, M. (2013). The good and bad of tablets at work. At: InformationWeek.
<http://www.informationweek.com/mobile/the-good-and-bad-of-tablets-at-work/d/d-id/1110346?>

Ericsson, S. (2014). Barriers of developing and implementing IT-innovation in healthcare: A process study of challenges in eHealth development. Masterthesis, Retrieved from <https://www.diva-portal.org/smash/get/diva2:726028/FULLTEXT01.pdf>

Ericsson, S., & Granqvist, E. (2013). Att öppna upp sjukvårdens förändrings-och utvecklingsarbete: En studie av medskapande innovation i primärvården. Bachelor thesis, Retrieved from <https://www.diva-portal.org/smash/get/diva2:630004/FULLTEXT01.pdf>

Glaser, B., & Strauss, A. (1967). The discovery of grounded theory. *London: Weidenfeld and Nicholson*, 24(25), 288-304.

Gripenberg, P. (2005). *ICT and the Shaping of Society: Exploring Human-ICT Relationships in Everyday Life (summary section only)*. Svenska handelshögskolan.

Hemp, P. (2009). Death by information overload. *Harvard business review*, 87(9), 83-89.

Holme, I. M., Solvang, B. K., & Nilsson, B. (1997). *Forskningsmetodik: om kvalitativa och kvantitativa metoder*. Lund: Studentlitteratur.

Johansson, G., & Aronsson, G. (1984). Stress reactions in computerized administrative work. *Journal of organizational behavior*, 5(3), 159-181.

Steinar, K., & Brinkmann, S. (2009). Interviews: Learning the craft of qualitative research interviewing. *EUA: Sage*.

Wright, P., & McCarthy, J. (2004). *Technology as experience*. Cambridge, MA: MIT Press.

Forman, C., King, J. L., & Lyytinen, K. (2014). Special Section Introduction—Information, Technology, and the Changing Nature of Work. *Information Systems Research*, 25(4), 789-795.

Kallinikos, J. (2006). Information out of information: on the self-referential dynamics of information growth. *Information Technology & People*, 19(1), 98-115.

Kling, R. (2007). What is social informatics and why does it matter?. *The Information Society*, 23(4), 205-220.

Lee, Y. K., Chang, C. T., Lin, Y., & Cheng, Z. H. (2014). The dark side of smartphone usage: Psychological traits, compulsive behavior and technostress. *Computers in Human Behavior*, 31, 373-383.

Lepp, A., Barkley, J. E., & Karpinski, A. C. (2014). The relationship between cell phone use, academic performance, anxiety, and satisfaction with life in college students. *Computers in Human Behavior*, 31, 343-350.

Lindblad-Gidlund, K. (2005). Techno Therapy: a relation with technology. Doctoral Dissertation retrieved from <http://www.diva-portal.org/smash/get/diva2:143699/FULLTEXT01.pdf>

Lundman, B. & Hällgren-Graneheim, U. (2008). *Kvalitativ innehållsanalys. I Tillämpad kvalitativ forskning inom hälso-och sjukvård*. Lund: Studentlitteratur.

Myers, M. D., & Newman, M. (2007). The qualitative interview in IS research: Examining the craft. *Information and organization*, 17(1), 2-26.

Nielsen, J. (1993): Usability Engineering. *Academic Press*. San Diego: USA.

- Nyberg, A. (2008). Att studera digitala artefakter i människors vardagsliv. Doctoral Dissertation retrieved from <http://www.diva-portal.org/smash/get/diva2:141367/FULLTEXT01.pdf>
- Oulasvirta, A., Rattenbury, T., Ma, L., & Raita, E. (2012). Habits make smartphone use more pervasive. *Personal and Ubiquitous Computing*, 16(1), 105-114.
- Pitichat, T. (2013). Smartphones in the workplace: Changing organizational behavior, transforming the future. *LUX: A Journal of Transdisciplinary Writing and Research from Claremont Graduate University*, 3(1), 13.
- Ragu-Nathan, T. S., Tarafdar, M., Ragu-Nathan, B. S., & Tu, Q. (2008). The consequences of technostress for end users in organizations: Conceptual development and empirical validation. *Information Systems Research*, 19(4), 417-433.
- Ritchie, J., Lewis, J., Nicholls, C. M., & Ormston, R. (Eds.). (2013). *Qualitative research practice: A guide for social science students and researchers*. London: Sage.
- Rush, S. (2011). Problematic use of smart phones in the workplace: an introductory study. *BArts (Honours) thesis. Central Queensland University, Rockhampton* Available: <http://hdl.cqu.edu.au/10018/914191>.
- SCB (Statistics Sweden), (1995): Datorvanor 1995, (Computer use 1995), SCB, Örebro, Sweden, (in Swedish, summary in English).
- SCB (Statistics Sweden). (2013). *Privatpersoners användning av datorer och internet*. (in Swedish, summary in English). Retrieved from http://www.scb.se/Statistik/_Publikationer/LE0108_2013A01_BR_IT01BR1401.pdf
- Spruell, G. (1987). Work fever. *Training & Development Journal*.
- Steimle, J., & Olberding, S. (2012, May). When mobile phones expand into handheld tablets. In *CHI'12 Extended Abstracts on Human Factors in Computing Systems* (pp. 271-280). ACM.
- Tarafdar, M., D'Arcy, J., Turel, O., & Gupta, A. (2015). The dark side of information technology. *MIT Sloan Management Review*, 56(2), 61.
- Tarafdar, M., Tu, Q., Ragu-Nathan, T. S., & Ragu-Nathan, B. S. (2011). Crossing to the dark side: examining creators, outcomes, and inhibitors of technostress. *Communications of the ACM*, 54(9), 113-120.

Thomé, S., Eklöf, M., Gustafsson, E., Nilsson, R., & Hagberg, M. (2007). Prevalence of perceived stress, symptoms of depression and sleep disturbances in relation to information and communication technology (ICT) use among young adults—an explorative prospective study. *Computers in Human Behavior*, 23(3), 1300-1321.

Thomé, S., Härenstam, A., & Hagberg, M. (2011). Mobile phone use and stress, sleep disturbances, and symptoms of depression among young adults—a prospective cohort study. *BMC public health*, 11(1), 1.

Tu, Q., Wang, K., & Shu, Q. (2005). Computer-related technostress in China. *Communications of the ACM*, 48(4), 77-81.

Ward, K. (2005). The bald guy just ate an orange. Domestication, work and the home. I T. Berker, M. Hartmann, Y. Punie, & K. J. Ward (Red.), *Domestication of Media and Technology*. Maidenhead: Open University Press.

Yin, R. (1994). *Case study research: Design and methods*. Beverly Hills: Sage Publications.

Åborg, C. (2002). *How does IT feel@ work? And how to make IT better: Computer use, stress and health in office work*. Doctorial Dissertation retrieved from <http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A162118&dswid=9838>

Åborg, C., Fernström, E., & Ericson, M. (2002). Telework—Work Environment and Well Being. A Longitudinal Study. *Uppsala University, Department of Information Technology*, 2002-031.

Appendix 1.

Interview form

Profession

- Time in the profession:
- What is your main role at the company?
- Schedule?
- How does a normal day look like for you? Describe.
- How are you as a person? Stressed or calm?

Technology Use

- How much IT-experience do you think that you got?
- Describe your IT use at work.
- Describe your IT use at leisure time.
- What IT-artifacts do you own?

Communication

- How often are you reachable/contactable? Through which media?
- Do you think that the environment is affected by your technology use? How?
- Do you use your smartphone for private purposes during working hours?
- If yes - Do you think that your use of the smartphone on working hours for private purposes affect your performance at work?
- Are there any rules/norms regarding smartphone use at work? If so, what are those?
Are you supposed to be contactable outside working hours?

Stress

- What is stress for you?
- How often do you read your email?
- How often do you check phone / computer where it is job-related?
- Do you have time to unwind and unplug the job completely?

Further information

- Do you have anything further you would like to add that may be of benefit to this study?
- Is it okay to contact you for any additional questions?