Telework Paradoxes and Practices: The Importance of the Nature of Work

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Research on telework often focuses on the outcomes of telework, investigating if telework is ultimately a 'good' or a 'bad' thing for teleworkers and their organizations. However, findings across telework research studies are often inconclusive, requiring deeper engagement with potential explanations for contradictory and paradoxical results. This study uses virtual ethnography (netnography) to investigate naturally occurring data. By analyzing online debates related to Yahoo!'s decision to ban telework for its employees, this study surfaces aspects currently overlooked by telework research. These findings suggest that the diversity of the nature of work undertaken by knowledge workers and perceived differences in the suitability of different tasks for telework are of critical importance for understanding telework from a practice perspective. However, deeper engagement with the different kinds of work activities of knowledge workers is currently missing in the telework research literature. This study therefore contributes to better understanding of telework and paradoxical findings in telework research.

Keywords: Telework; Telecommuting; Telework Paradoxes; Nature of Work; Virtual Ethnography; Netnography; Yahoo!, Work activities

Introduction

The transformational role of information and communication technologies (ICT) is particularly visible in the ways knowledge work is organized and performed. With falling costs for ICT and related infrastructure, ease of access to high speed Internet as well as ubiquity of mobile devices, space-time limitations in conducting knowledge work has greatly diminished. Thus conditions for telework − broadly described as participation in work away from an office by means of ICT − are at

an all-time high. However the uptake of telework has been slower than predicted (Overmyer, 2011; Pyöriä, 2011). Interestingly, leading technology companies such as *Yahoo!* and *HP* which were anticipated to spearhead teleworking initiatives have recently started to restrict their workforce from teleworking (Cain Miller and Rampell, 2013; Keller, 2013; Lavey-Heaton, 2014; Moses, 2013; Swisher, 2013).

While these developments for telework in practice are puzzling, research on telework implications is even more so. Studies that demonstrated positive outcomes from telework, such as improved work-life balance for employees and reduced costs for organizations (Gregg, 2011; Kanellopoulos, 2011), are contrasted by other studies demonstrating potentially negative outcomes, such as difficulties in developing shared knowledge among employees and reduced work satisfaction (Pyöriä, 2011; Sarker et al., 2012). Particularly paradoxical are contradictory findings where telework is reported to be positive for one aspect in some studies, such as improved work-life balance, while in others it is reported to be negative and related to increased work-life conflict (Gajendran and Harrison, 2007; Jarvenpaa and Lang, 2005; Sørensen, 2011; Wheatley, 2012). It can be argued that the frequent presence of paradoxical findings is a sign that perhaps our assumptions are questionable and that we need to rethink the research approach taken to investigate telework phenomena. Seeking how telework impacts individuals and organizations may imply an oversimplification of the issues involved. Furthermore, instead of trying to accumulate further evidence for or against telework, researchers need to "resist the simplification of our findings and avoid clear cut divisions between good and bad" (Harmon and Mazmanian, 2013, p. 1059). The growing evidence of inconsistent and paradoxical research findings is an indication that we need to explore alternative approaches and engage with paradoxes more thoroughly (Harmon and Mazmanian, 2013; Robey and Boudreau, 1999) to provide plausible explanations that can inform future research. This paper thus questions and rethinks assumptions present in current telework research such as the assumption that it is possible to determine if telework is ultimately a 'good' or a 'bad' thing (Gajendran and Harrison, 2007).

To this end the online debate about telework - its past, present and future - sparked by Yahoo!'s decision to ban its employees from teleworking (Swisher, 2013) presented an unprecedented opportunity that inspired our research. The evidence generated by this debate enabled access to naturally occurring data created without interference by researchers. This makes the data particularly valuable for uncovering additional issues that are currently less represented or understood in telework research. Furthermore, the debate involved a broad spectrum of opinions, ranging from supportive to highly critical of telework practices. This debate therefore provides opportunity to shine a light on telework practice and to look into aspects of the phenomenon which are currently misunderstood or overlooked in telework research.

Our research aims to contribute to a better understanding of telework and the paradoxical outcomes reported in extant literature. To achieve our aim we engage with telework from a practice perspective. Such research is relevant for improving theoretical engagement with telework. We therefore go beyond research providing evidence for and against telework. Instead we seek to illuminate how telework is experienced and performed in practice. Through our analysis of the discourse on telework in the Yahoo! case we offer an insight into telework practices and a fresh look at paradoxical findings in earlier telework research. Firstly, we argue that even at the level of an individual knowledge worker telework is not uniformly experienced as being a positive or negative thing. Secondly, the nature and diversity of work activities knowledge workers are engaged vary in their suitability for telework. And thirdly, ICT can vary in capability to support the different kinds of work activities in which teleworkers are engaged. These findings are important as they underline that telework is intrinsically neither good nor bad, but that we need to examine more closely particular work activities, their contexts, and the ways work activities are undertaken as part of a telework regime.

Outcomes and Paradoxes in Findings of Earlier Telework Research

The research literature on telework is extensive. Findings reported in this body of research are, however, often inconclusive in regards to the potential benefits and drawbacks associated with telework (Gajendran and Harrison, 2007; Jarvenpaa and Lang, 2005; Sørensen, 2011; Wheatley, 2012). While some studies report that telework has benefits for individuals and organizations, other studies report the opposite, indicating potential drawbacks associated with telework.

Telework Benefits and Drawbacks

Telework is reported to have a number of potential benefits for employees and organizations. One frequently reported finding in the literature is that telework contributes to increased flexibility and autonomy for workers (Baruch, 2000; Golden, 2009; Gregg, 2011; Hornung and Glaser, 2009; Maruyama and Tietze, 2012; Pearlson and Saunders, 2001; Sardeshmukh et al, 2012; Tremblay, 2002; Tremblay and Thomsin, 2012). Teleworking employees have more freedom to structure their work activities and decide when, where and how they engage with work, enabling them, for instance, to work according to their own productivity cycles and times (Gajendran and Harrison, 2007; Morgan, 2004; Pyöriä, 2011). This flexibility can contribute to organizational agility, as workers are able to access work related information more efficiently, regardless of time and space (Campbell and McDonald, 2009; Morgan, 2004; Overmyer, 2011). Increased flexibility and autonomy for workers are seen as an aspect contributing to higher job satisfaction (Fonner and Roloff, 2010; Gajendran and Harrison, 2007; Golden, 2009; Hornung and Glaser, 2009; Morgan, 2004; Overmyer, 2011), improved work morale (Campbell and McDonald, 2009; Kanellopoulos, 2011; Pyöriä, 2011; Wheatley, 2012) and a corporate image of a flexible workplace caring about its employees (Baruch, 2000). Furthermore, several studies argue that the flexibility enabled by telework can improve workers ability to better coordinate work and non-work commitments, thus improving work life balance (Gajendran and Harrison, 2007; Golden, 2009; Gregg, 2011; Kanellopoulos, 2011; Overmyer, 2011; Sullivan and Lewis, 2001; Tremblay and Thomsin, 2012).

Telework is also reported as contributing towards higher productivity for organizations and their employees (Gajendran and Harrison, 2007; Gregg, 2011; Martínez-Sánchez et al., 2007; Maruyama and Tietze, 2012; Overmyer, 2011; Tremblay, 2002). For instance, teleworkers might put some of the time saved from their daily commute to the company office into additional productive work (Johnson et al., 2007; Kanellopoulos, 2011; Pyöriä, 2011; Tremblay and Thomsin, 2012); or they are more productive because they experience less interruptions than colleagues working in a potentially noisy and disruptive office environment (Bailey and Kurland, 2002; Baruch, 2000; Fonner and Roloff, 2010; Morgan, 2004; Sherry and Salvador, 2002; Tremblay and Thomsin, 2012).

However, important drawbacks associated with telework are also reported in the literature. Managers may be hesitant in adopting telework as it challenges their ability to assess and control the productivity and commitment of their subordinates (Causer and Jones, 1996; Lowe and Oliver, 1991; Morgan 2004; Pyöriä, 2011). Furthermore, It is argued that telework may hinder teamwork and collaboration as team members, not physically co-located, have reduced ability to build shared understanding and implicit knowledge (Baruch, 2000; Brodt and Verburg, 2007; Pearlson and Saunders, 2001; Pyöriä, 2011; Sarker et al., 2012). For instance, telework can obstruct the building of trust among team members (Pyöriä, 2011), reduce the quality and frequency of information exchange among team members (Fonner and Roloff, 2010), and hinder the building of team spirit due to adverse reactions by non-teleworking coworkers (Overmyer, 2011; Tremblay and Thomsin, 2012). Furthermore, as teleworkers have reduced opportunities for social and informal interactions with colleagues, telework may contribute to feelings of social

isolation and a lack of workplace involvement (Gajendran and Harrison, 2007; Golden, 2009; Gregg, 2011; Mann and Holdsworth, 2003; Maruyama and Tietze, 2012; Sardeshmukh et al, 2012; Tremblay, 2002; Tremblay and Thomsin, 2012). Telework may thus contribute towards decreased work satisfaction and to a feeling of social isolation (Mann and Holdsworth, 2003; Pyöriä, 2011), potentially contributing towards reduced identification with their organizations and reduced organizational commitment (Allen et al., 2003; Golden, 2009). Some authors also argued that teleworkers might actually be subject to more interruptions, such as potential distractions from family members or co-workers via email, calls and chat (Leonardi et al., 2010; Sherry and Salvador, 2002). Finally, several authors reported that telework may contribute to an increase in work life conflict, as the boundary between work and private life becomes blurred (Fonner and Stache, 2012; Gold and Mustafa, 2013; Gregg, 2011; Mann and Holdsworth, 2003; Overmyer, 2011; Sarker et al., 2012; Tietze and Musson, 2002; Tremblay and Thomsin, 2012). In this sense, telework's promise of flexibility to work anywhere and anytime may actually reduce workers autonomy to decide when and where to engage with work (Mazmanian et al., 2013). Thus contributing to workaholism where work becomes working everywhere (Sarker et al., 2012).

Telework Paradoxes

As this overview of telework research exemplifies, claimed benefits and drawbacks in the literature are often paradoxical and contradictory in nature (Gajendran and Harrison, 2007; Pearlson and Saunders, 2001). This can be exemplified by pointing out several paradoxes arising from the literature review above: (a) telework has the potential to be both helpful and harmful to work-life balance. While it is claimed that telework can improve work-life balance, as work and private life commitments can be coordinated and integrated more easily, it is simultaneously argued that telework can contribute to increased work-life conflict, as availability to coworkers or compulsion to stay on top of things is exaggerated (Sarker et al., 2012). (b) It is unclear if telework helps in reducing interruptions and therefore improve productivity, as teleworkers can be subject to different types of disruptions. For instance, while teleworking colleagues are not physically present in an office they may actually be subject to more ICT assisted interruptions via email or chat messages than co-located colleagues (Leonardi et al., 2010). (c) It is argued that working away from colleagues and peers may lead to feelings of isolation and reduced satisfaction, which contradicts findings reporting telework as contributing to increased job satisfaction.

Three different approaches are suggested in the literature for understanding these and other paradoxical findings. The first approach argues that the elusiveness of telework is due to an unclear definition of telework, thus blurring findings for different categories of teleworkers such as 'nomadic' mobile teleworkers and home based teleworkers (Neirotti et al., 2013). Following this explanation, a clearer definition of different types of teleworkers is needed that distinguishes between organization affiliated and freelance teleworkers (occupational status) (Gold and Mustafa, 2013) and from where telework is undertaken: home-based, client-based, or nomadic, leading to a two by three matrix of different types of teleworkers (Garret and Danziger, 2007). To this, employment related distinctions should be added: full-time, part-time (Gajendran and Harrison, 2007) as well as the types of technology used (email, chat, phone, networked PC, knowledge sharing applications, etc.). The definitions of different types of telework, however, would inevitable emerge as new technologies are used and new types of teleworkers are differentiated, thus limiting the ability to undertake comparable studies (Robey and Boudreau, 1999).

The second explanation for adverse effects of telework is that intended first-order effects are canceled out by unintended second-order effects. In the context of

telework, an intended effect of increased productivity when working in an environment with fewer disruptions may be canceled out by the need of colleagues to communicate, thus causing greater ICT induced interruptions (Leonardi et al., 2010). For instance, Rennecker and Goodwin (2005) argue that adverse effects can emerge in situations where the intended effect of increased productivity is to be achieved by minimizing work delays utilizing ICT mediated interaction. While ICT use can reduce productivity loss due to work delays for one employee (first-order effect), it may lead to increased work interruptions for another employee (second-order effect), thus undermining net benefits for the overall productivity.

The third approach for understanding inconclusive findings is that the outcomes from telework can vary depending on how technology is appropriated. Thus, even when the same technology is used for telework in the same organization, outcomes may differ. For instance, regarding work life matters Mazmanian (2012) showed that BlackBerry devices where appropriated across different departments within the same organization in ways that lead to improved work-life separation in one department, while work crept further into the private lives of employees and increased work-life conflict in another. Mazmanian argues that these divergent results can be explained by the different appropriation of BlackBerry devices across departments. In one department, an initial positive attitude towards the use of BlackBerries as part of professional identity and work gave rise to heterogeneous use patterns that increased work-life conflict. Whereas in another department an initial indifferent attitude towards homogenous BlackBerry use for work led to BlackBerry use patterns seen as contributing to better work-life balance for employees.

While contradictory findings in telework research are common (Gajendran and Harrison, 2007; Jarvenpaa and Lang, 2005; Sørensen, 2011; Wheatley, 2012) existing explanations for understanding paradoxical results are limited. This motivates research that engages with contradictory and paradoxical findings more thoroughly (Harmon and Mazmanian, 2013; Robey and Boudreau, 1999). One way to do that is to look more closely at telework from a practice perspective and seek "an empirical description of what is actually going on in practice today" (Orlikowski and Barley, 2014, p.157). We therefore approach telework from the perspective of those with a direct or indirect involvement in telework practices. This approach should not be confused with *practice theory* that denotes a range of general theories of practice (e.g. Schatzki, 2010; Sandberg and Tsoukas, 2015). While we do not draw from any practice theory as such, the practice perspective we adopt in this paper draws from interpretivist tradition (Walsham, 2006) as it focuses on the experiences with telework and examines the accounts of those directly or indirectly involved in the practice of telework.

Looking at the literature reviewed above, it is striking that almost all of it takes the notion of 'work' for granted. Exceptions are Gregg (2011) who argues that conceptions of work-life research are often founded on an understanding of work as alienating – in a Marxian sense – assuming the need to establish boundaries between work and private life; and Tremblay (2002) who provides a rough contrast of activities undertaken by freelance and organization affiliated teleworkers. Therefore, what is currently lacking in telework research is a deeper engagement with notions of 'work' and with how telework transforms work and thereby challenges established work practices. We therefore seek to engage in telework research from a practice perspective with the aim of investigating potential explanations for the inconclusive and contradictory findings in current research arising from the perspective of those directly or indirectly engaging with telework.

Methodology

To achieve our aim of better understanding contradictory and paradoxical findings in current telework research, we conducted a virtual ethnographic (VE) study (Hine, 2000, 2008), sometimes also referred to as netnography (Kozinets, 2002),

Figure 1: The Yahoo! telework ban, a screenshot from the headline at the Los Angeles Times and excerpt of the memo send to Yahoo! Staff

of online debates following the Yahoo! decision to ban telework within the company. The decision was widely reported in the press (Figure 1), leading at times to a vigorous debate in the media about the merit and perils of telework from a range of different perspectives (e.g. Cain Miller and Rampell, 2013; Moses, 2013; Keller, 2013). This event therefore provided a unique opportunity to investigate data from online discussions about telework that involved a wide audience including teleworkers and those interested in, or affected by, telework. Moreover participants engaged in the discussions spontaneously expressing in most cases their views and experiences from practice. VE of these online debates allowed us to investigate telework issues relevant to practitioners of all kinds thus enabling the development of a better understanding of aspects of telework from a practice perspective, and to shed new light on contradictory and paradoxical research findings.

It is important to note that VE includes a range of approaches that are not necessarily identical to the experience of 'going native' in traditional ethnographies (Geertz, 1974). However, VE is a particularly suitable approach for our purpose as it provides a means for collecting data that is not affected or obstructed by interference with a researcher's prior assumptions and understanding of a research domain (Kozinets, 2002). It is therefore particularly suitable for identifying additional aspects not addressed in the extant telework research literature. Furthermore, a VE approach allowed us to reach a distributed audience with the potential to incorporate a wide range of views on telework (Hine, 2008). Research on telework generally focuses on current teleworkers as its data source. However, VE enabled us to obtain insights regarding challenges and benefits associated with telework

from a wider audience consisting of individuals that have had experience with teleworking as well as those interested in or affected by telework irrespective of their own participation in telework. As a result our data sources include not only teleworkers themselves but also colleagues and managers of teleworkers. It is important to note that due to the nature of our data collection with anonymous participants in the Yahoo! debate it is generally not possible to link claims made by participants to their roles, such as being a teleworker or a manager, or to the degree of their engagement in telework. However, our investigation has the potential to uncover issues related to telework from a range of participants including those not directly experienced by teleworkers' themselves. Consequently our research is open to uncovering issues that may challenge claims about successful engagement in telework practice (Brough and Driscoll, 2010). By accessing practitioner-based discussions and reflections, VE thus allows us to be sensitive to diverse perspectives in practice and to uncover aspects that are not yet explored by research.

In order to ensure a wide coverage of issues regarding telework, we selected discussions from three major newspapers in the USA, UK and Australia: *The New York Times* (USA), *The Guardian* (UK), and *The Sydney Morning Herald* (Australia). All three newspapers generally encourage their readers to participate in debate on current issues on their websites. In particular all three sites offered an intensive debate on the topic of telework following Yahoo!'s decision. Furthermore, all three newspapers have in common that they have a broad reach, both in their print and online presence for their respective countries and beyond. Regarding influence in print, all three newspapers are among the highest for their countries in terms of circulations of print copies. Regarding online influence, according to rankings of visits to websites by *alexa.com*, the websites of all three newspapers are ranked among the most visited newspaper websites in their respective home countries, and also obe of the most visited websites in general. Selecting these three sites ensured the involvement of a wide audience in our analysis of the debate about telework.

We gathered data from online discussions about Yahoo!'s telework ban from the webpage of all three newspapers. All of the discussions were instigated in response to articles by each of the newspapers about Yahoo!'s decision to ban its workers from teleworking. Furthermore, all three newspapers moderate comments, thus ensuring a high quality of discussions, evident in the complete absence of spam or inflammatory comments in our data set. Overall our empirical material included 527 individual posts resulting in 209 pages of printed text. Comments varied in length from statements consisting of several paragraphs to short one sentence replies to posts made by others. Most comments were in regard to telework. However, a few comments were not analyzed in-depth as they referred to other issues such as specific business aspects of Yahoo!

We adopted a thematic analysis of the empirical material (Ezzy, 2002) and followed the coding process that involved first open coding (1st order concepts), then comparison and development of more abstract categories (2nd order themes) that are subsequently aggregated into dimensions (Corley and Gioia, 2004; Gioia et al., 2013). We used the qualitative research software package *NVivo* to code and analyze our data (Bazeley and Jackson, 2013). Open coding focused on all interesting issues about telework that participants raised as important or critical. For this, all comments were read in depth and coded iteratively. This ensured that our analysis remained open to new ideas, insights, views, and experiences. These open codes or 1st order concepts reflected participants' issues and concerns about telework not affected by views or findings from the literature. As our analysis progressed, we compared these concepts with those from the literature and developed more abstract categories by grouping the open codes into 2nd order themes. Of particular interest were themes that are not yet thoroughly represented in the literature. By aggregating these themes, we identified three key dimensions – 'complexity of work in practice', 'diversity of work activities' and 'the role of ICT' – which was the final stage in building a hierarchical structure of codes (Gioia et al., 2013).

While these three key dimensions emerged from the open coding, they reflect researchers' interest and selection of themes that are novel and not discussed in the literature. In the next presentation of our findings we follow Hine's (2008) advice and conceal the nicknames used by participants in discussions in order to help preserve their online identities.

Telework from a Practice Perspective

The debate raised numerous issues already discussed in the literature related to telework, such as commuting, productivity, and work-life balance. In order to further understand the paradoxical outcomes of telework, we present our findings within three major dimensions that are currently less represented in the telework literature.

The first dimension is the richness and complexity of the situated telework experience at the level of an individual teleworker. From a practice perspective diverse telework outcomes are not only present across different studies on telework, but are part of the everyday telework experience of individual workers. The manifestation of potential benefits or drawbacks of telework for an individual can change on a daily basis along with their current work activities and work demands.

This observation is related to the second dimension, the diverse range of work activities in which teleworkers can be involved in and how these activities can differ in their suitability for telework. The evidence presented under these two dimensions suggest that contradictory findings in earlier research may be more closely related to the nature of work that different teleworkers are engaged in than is currently acknowledged in the literature.

Thirdly, ICT can have an ambivalent role in supporting different work activities, teamwork and interaction, including feedback in asking and answering questions. Heavily reliant on ICT, telework may be simultaneously hindered and facilitated by the use of different technologies. The following subsections will now look at each of these three dimensions more closely.

Complexity of Work and Individual Experiences Situated in Practice

Our analysis of the online debate reveals how the complexity and mutual dependencies of the situated work activities in practice affect both telework experiences and individuals' assessments of the benefits from telework. For example, Mary from Sydney argues that working from home is only beneficial for part of her work:

> "I work two, sometimes three days from home. For creative thinking - for writing, and structuring my work, it's fantastic. It's quiet. I can breath [sic] fresh air. I can see the sky and feel the world feeding into my thinking. I don't waste time on gossip, I don't get distracted by unnecessary conversations. I don't feel as stressed by other people's tension or anxieties. My thinking is flexible and my solutions to problems are always more interesting when I make them at home. And I'm much more productive [at] home - stuff really gets done - my comparative output is high. And I can have lunch in the garden! But the mundane organisational work I can and often prefer to do in the office. Meetings are better face-to-face, than on the phone, but I can plan around those as my job is so independent of others. Two days a week of work from home is just wonderful! Creative and invigorating - and I feel trusted and valued by my immediate boss," (Mary from Sydney).

Clair from Stamford, United Kingdom, also argues for part-time engagement in telework to accommodate productivity benefits from both remote work and office work:

> "I do believe the best balance is some [sic] in office and some at home - that way you get the productivity of home with the innovation those casual interactions and in office

together time drive. No one - and I mean no one - spends 100% of their time trying to innovate as a group. You have to do the productive work - by yourself, mostly," (Clair from Stamford, US).

Both of the participants' comments above illustrate the views of many others in our dataset. In practice telework is seen as a particular way of working that has specific advantages and challenges. It seems that being able to concentrate and work on something without having to deal with office banter and interruptions from colleagues can be beneficial for creative thinking, and for specific outcomes such writing reports. At the same time interaction with colleagues is seen as benefiting from face-to-face activities. As work often involves both interaction with others and working on one's own, this indicates that the effects and benefits of teleworking are contingent upon the complexity of work activities. This complexity involves multiple aspects that all simultaneously affect individual teleworkers and their telework experience.

Diversity of Work Activities

We found that the diversity of work activities knowledge workers are engaged in is highly relevant in assessing the suitability and effectiveness of telework in practice. Participants mentioned a number of different work activities in the discussion, often arguing why they believe that a particular work activity may benefit or may be hindered by telework. Activities that were mentioned include: writing, concentration, exchange of ideas, clerical work, collaborative decision making, and seeking and providing advice.

Several participants argued that *writing* activities such as producing reports or code may be better done from home:

> "I think we all know if we have a report to write or a program to code or test, it can be easier to be at home, instead of starting the commute at 8 and work at 9, we can start work at 9, and with no one annoying us with questions and stuff," (Jane from the UK).

It therefore seems that writing as a work related activity does not require frequent interaction with colleagues. Instead telework offers employees the ability to focus on the task for uninterrupted stretches of time, which some see as more easily achievable when working away from a corporate office.

Other participants mention work activities requiring *concentration* as potentially benefiting from telework:

> "There are times when working from home is feasable [sic], noisy office environments are not good for concentration, neither are things like hot desking, The currently fashionable office's [sic] with any [number of] people in one room can be stressful and noisy," (Lili from the UK).

> "When it comes to concentrating I need the quiet ergonomic conditions that I set up for myself in my home. When I worked in a cubical I heard the discussions going on between co workers. They were not inventing the next great idea. They were talking about the series "24" or the Monday night football game or how drunk they got the night before and how hungover they were that day. It was very hard to concentrate and I had to get ear phones that would block out the noise," (Liz from Oakland, US).

As these and other participants in our dataset indicate, corporate office environments can be noisy and also involve various distractions that can hinder the ability to concentrate on a particular problem or task. It seems that working from a familiar space that is set up to one's own particular needs and requirements can have a beneficial impact on the ability to concentrate on a task.

A further aspect mentioned by participants is the extent to which work requires the *exchange of ideas* between colleagues:

> "Because only by being immersed in the flow of ideas being discussed by people

around you will you truly be engaged with those ideas and making the kind of contribution you need to be making," (Tim from the UK).

"At work I have all the people that I need to communicate with and the ability to work collaboratively in an efficient manner. At home I have me. No compare [sic]. If your job consists of typing up word docs or other solo file manipulation tasks in isolation then terrific, telecommuting is for you. If your job involves dynamic team project work then forget it. If you're not there you're not part of the team," (Paul from Australia).

Working as part of a team, a feature of many organizations, requires social interaction and immediate feedback from others. As the comments by Tim and Paul indicate, this involves work activities seen as benefiting from direct face-to-face interaction between colleagues and thus not well suited to teleworking.

In contrast, the necessity of being present in a centralized office for undertaking routine *clerical work* was questioned by some participants. In the following Fiona points out that office work can be solitary and repetitive, requiring little interaction among colleagues. Hence the quality of her work is not seen as benefitting from face-to-face interaction:

"In the office we get our work via email and then it's just point, point, click, click, click. Some days hardly a word is said. And my work quality at my home-desk would be as good as I make it," (Fiona from Melbourne).

Some participants argue that *collaborative decision making* may not be suitable for telework, as this work activity requires an ongoing dynamic interaction between and among team members. As Morton's statement indicates, better decisions may be made when different options are discussed, dismissed and refined as part of an ongoing dynamic exchange between different members of a team:

"Collaboration requires working together. People bounce ideas off one another to arrive at the best solution. What one person says sparks the thoughts of another. If people are working remotely, that is lost. Instead, someone makes a decision and then tells the remote foot soldiers to fulfill their role in executing it. One might raise a red flag about an issue then, but the organization has already started down what may be a wrong path since there was no reaching agreement on the best solution in advance," (Morton from the UK).

Similarly some participants argue that *seeking and providing advice* to and from colleagues may benefit from co-location in a shared office. Being in physical proximity makes it easier to receive feedback from others, ask questions, or share work artifacts such as a document, drawing or picture. It seems that work activities requiring such interaction may be hindered by telework:

"If I need to get one of my employees I can go into the office next door and there they are. If they are at home then I can only speak to them one at a time and only if they decide they are going to answer the phone. It's also much more time consuming for me if I wish to show them something; a document, a letter, a video - anything....I'm going to have to scan it in and send it to them or fax it to them - assuming it is in a format where I can actually do that," (Fred from the UK).

"Problem is answering questions may be one of the most important parts of our job, making us and co workers more productive. This is the big challenge for employees, managers and companies in this day and age, those who get a handle on it will have a huge advantage," (Jane from the UK).

As all the comments above highlight, knowledge work commonly undertaken in a corporate office can be of many different kinds. As a range activities are performed for different kinds of work and work projects,the impact of teleowrk is

highly dependent on what tasks and level of team interaction required.

The Role of ICT and Enactment of Work

An important dimension in understanding telework experiences and effects is related to the role of ICT in enabling and facilitating telework. In particular, the role ICT can play in facilitating collaboration between team members was intensely debated. An excerpt from the debate presented in the Vignette 1 below shows divergent views on ICT role in telework vis-à-vis on-site work in software development projects. Nick argues for the importance of face-to-face interactions in his involvement in agile development, while others argue that ICT can offer a means of communication suitable to agile development:

The discussion in vignette 1 illustrates the diversity of views and experiences of telework and the role of ICT in a single type of work activity (agile software development). These views depend on specific appropriation of various technologies, norms and rules in conducting work tasks for projects, and broader organizing and working conditions (such as globally distributed teams).

In another example, two contrasting viewpoints about the effectiveness of ICT for asking colleagues for their help and advice are discussed. According to Janice, ICT mediated communication is preferred, whereas Brad argues an opposing view (vignette 2).

Vignette 1

Nick: Certain work requires collaboration and quick decisions. For example, if you [are] involved in agile development, team communication is absolutely vital if you are to make your deadlines. Critical situations can happen without warning and addressing an issue with everyone on-site for an impromtu [sic] meeting is a lot easier when everyone is present...

Evelyn: @Nick - Nonsense. I work in a development-based business where instant decisions are often needed. No-one has to phone everyone up. We log-on or dial in and we are all connected. I am currently collaborating with a team in five different countries on three different continents. The norm when everyone is on site is usually that key people are committed to other meetings and aren't available.

Nick: [@ Evelyn] I am amazed by the telepathic ability that gets everyone to login and dial in without contacting people individually. You should patent the process! I also work with the US, UK, India and China on a rolling production process. True that we can't all be in the same location nor even online at the same time - but productivity within the hubs is definitely improved when all are assembled. "The norm when everyone is on site is usually that key people are committed to other meetings and aren't available" True - but when they are onsite [sic], they can be interrupted from their meeting to deal with a critical issue. When they are working from home, you just get a busy tone on their mobile...

Steve: @Nick - If you're needing to interrupt meetings because a critical issue has come up and only one person can solve it then you have bigger problems than people not being face to face. […] Oh, and if you're working in a large, organised team then there's no reason you can't run a dedicated instant messenger service for people to log into for communication. That way you can get in touch even if they're in a phone meeting. I worked in an office where there were a lot of people who had to travel around the country and still stay in touch, this was how they managed it.

Max: @Nick - What's a "phone"? Seriously -- agile development implies that the members of a team are in constant communication with each other. They obviously won't be communicating all the time but rather they need the capability to be able to initiate ad-hoc meetings at a moment's notice, even if its [sic] to just answer a single question. F2F is too inefficient. This does mean that all team members need to be actively working at the same time but it doesn't mean they have to be physically in the same place.

Eric: @Nick - You book the con[ference] call and send a group email, often via an MS calendar or something. Takes, oh, seconds. (And even those not at a PC have a smartphone or tablet to pick up the message). Really, it could hardly be easier. Sometimes, I wish it [sic] nothing like so easy...........

Both discussions above highlight that the ways ICT are appropriated to support team interaction are experienced differently by different knowledge workers in their specific work situations. This has implications for telework's reliance on ICT as primary means of communication between workers. Both vignettes also suggest that how ICT is appropriated for work activities plays a significant role in making telework productive and successful.

Vignette 2

Brad: "I have the option of working from home, but rarely take it, because in reality I am more effective when I am sitting with my peers, available for impromptu discussion or questions. the [sic] ease of being able to walk over to someone's desk and ask them a question is just not comparable to making a call or sending an email. In my job, having people constantly working from home is disruptive and counter-productive. I say we just ban it.

Janice: @Brad - "Well, that might be the case for you, but how effective are your poor co-workers when you just "walk over to someone's desk" and rudely interrupt them? I much prefer to have someone send an email, it means I have a record of what was asked/what my response was, it means I can think for a moment to give a full and considered answer to the question, and finally, If I am working on something that requires my full attention, I don't get interrupted by rude idiots who like to "wander up and ask questions" and I can attend to it when I have finished with what I was doing.

Our analysis of the debate about telework provides evidence of the importance of the nature of work for understanding inconclusive, contradictory and paradoxical results in earlier telework research. Importantly, participants in this debate offered and reflected on their own experiences with telework spontaneously without being asked or prompted by researchers. These experiences can thus be seen as authentic and genuine views from practice that allow us to make justified claims about aspects currently missing in telework research that have potentially contributed to inconclusive and contradictory results in earlier research.

Discussion

Our findings suggest that experiences with telework and the assessment of telework appropriateness and effectiveness are deeply contextual and embedded in work practices. The findings also suggest that teleworking implications cannot be assessed generally in a straight-forward manner. What concerns practitioners in the telework debate are the types of work and interaction among colleagues required as part of specific work practices, and how and why these interactions are perceived to benefit from direct face-to-face interaction or technologically mediated communication. Figure 2 summarizes three dimensions of the nature of work associated with telework outcomes and implications that emerged from our analysis.

First, participants discussed the complexity of work as influencing the ways individual workers experience telework practices and appreciate the opportunities offered by working remotely or from a company premises. For instance, there are some common views regarding the benefits of telework when engaged in creative, contemplative and intellectual activities. However, there are also individual differences in work styles and the execution of particular type of work activities. For example, some workers prefer undertaking clerical work from an office setting whereas others prefer undertaking these activities from home. Hence there is a need to further investigate how telework can be productively appropriated in complex and changing work activities and also how telework may suit varying personal and team conditions, preferences, and approaches for undertaking particular work activities.
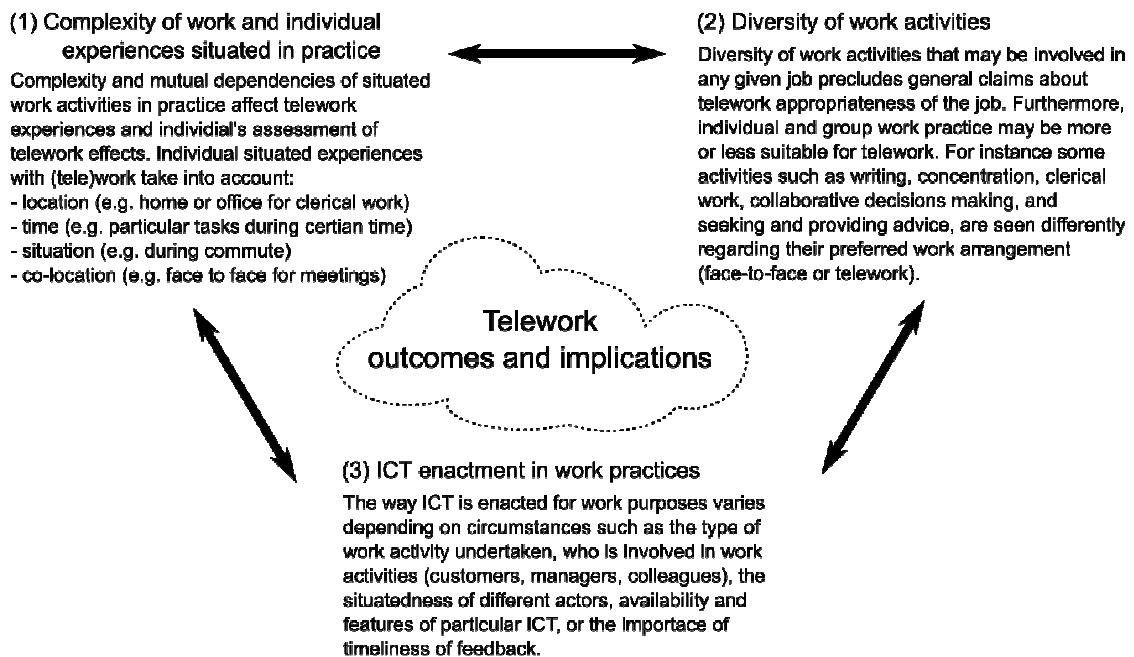
(1) Complexity of work and individual experiences situated in practice

Complexity and mutual dependencies of situated work activities in practice affect telework experiences and indivial's assessment of telework effects. Individual situated experiences with (tele)work take into account:
- location (e.g. home or office for clerical work)
- time (e.g. particular tasks during certian time)
- situation (e.g. during commute)
- co-location (e.g. face to face for meetings)

(2) Diversity of work activities

Diversity of work activities that may be involved in any given job precludes general claims about telework appropriateness of the job. Furthermore, individual and group work practice may be more or less suitable for telework. For instance some activities such as writing, concentration, clerical work, collaborative decisions making, and seeking and providing advice, are seen differently regarding their preferred work arrangement (face-to-face or telework).

Telework outcomes and implications

(3) ICT enactment in work practices

The way ICT is enacted for work purposes varies depending on circumstances such as the type of work activity undertaken, who is involved in work activities (customers, managers, colleagues), the situatedness of different actors, availability and features of particular ICT, or the importace of timeliness of feedback.

Figure 2: Dimensions of the nature of work in telework

Second, our analysis shows activities such as writing and coding, concentrating, working in teams and exchanging ideas, clerical work, collaborative decision making, and seeking and providing advice, all differ in terms of individuals' personal need for either quiet, interruption free working conditions or for interactive face-to-face interactions colleagues. This is why the diversity of work activities is highly relevant for understanding suitability and effectiveness of telework. We therefore suggest that a more thorough investigation of the variety of work activities knowledge workers are involved in and the ways telework may be productively appropriated is needed in order to better understand potential benefits and shortcomings of telework.

Third, the evidence from the debate suggests ICT can be used and appropriated differently for the same work activity leading to telework being assessed differently. As the exchange between Brad and Janice illustrates (Vignette 2), receiving timely feedback from colleagues in a face-to-face situation may be critical in some interactions. In other interactions, providing immediate feedback may be less pressing and electronic communication may actually be preferred in order to avoid interruptions and for maintaining a record of an exchange. Importantly, both views would require a different approach to telework and the adoption of ICT. By not accounting for how ICT are appropriated in a context and enacted for assisting and enabling different work activities in specific work environments, research can overlook important distinctions in telework practices and their implications.

We suggest that a deeper investigation of these three dimensions — complexity of work and individual experiences situated in practice, diversity of work activities, and ICT enactment in work practices — is necessary for better understanding telework and its seemingly inconsistent outcomes and implications. Insights into each dimension and interrelationships among the three dimensions can reveal further salient aspects of telework practices that are important to organizations and teleworkers as they seek to improve arrangements of telework and co-located work practices.

Furthermore, our research reveals limitations of the three approaches in the literature proposed to explain paradoxical and contradictory findings in existing telework research (Gajendran and Harrison, 2997; Pearlson and Saunders, 2001) and proposes additional considerations:

The first approach suggests that a clear distinction of different types of teleworkers can resolve inconclusive research results as telework outcomes depend on intensity, occupational status, technology, or the location from where telework is undertaken (Garret and Danziger, 2007; Gold and Mustafa, 2013; Neirotti et al., 2013). Our study indicates telework as experienced by individuals is highly situated and dependent on particular tasks and work contexts. This suggests that situational and contextual aspects contributing to the benefits or drawbacks of teleworking for an individual may be overlooked if research generalizes outcomes for a particular type of teleworkers. A more thorough engagement with the nature of work and how different aspects of work can be supported or obstructed by telework for individual teleworkers can identify means to better understand what contributes towards telework being beneficial or detrimental for individual workers.

According to the second approach, first-order and second-order effects of telework can lead to unpredictable outcomes as, for instance, increased productivity for some workers may result in reduced productivity for other workers due to an increase in interruptions (Rennecker and Goodwin, 2005). However, our findings suggest that focusing on first-order and second-order effects can help to better understand contradictory and paradoxical results, provided we take into account individual preferences and the work undertaken by a particular employee in a particular setting. The rich evidence from the discussion by our participants thus indicates that better understanding of telework outcomes and implications in terms of first-order and second-order effects may be achieved by looking closer at what employees are actually doing, how work is accomplished and where it can be undertaken.

The third approach for understanding paradoxes in telework research suggests that different appropriation of ICT for telework will result in different and potentially contradictory outcomes (Mazmanian, 2012). While our findings support this explanation, it is important to emphasize that appropriation of technology is only one of the three dimensions - complexity of work, diversity of work activities, and ICT enactment in work practices as presented in Figure 2 - that might affect different and contradictory teleworking outcomes. For instance, Mazmanian (2012) argues that appropriation of mobile email supported staff working in sales to improve their work-life balance, whereas in the legal department of the same company a different appropriation of the same technology contributed to the undermining of work-life balance. From our findings we would suggest that it is not only the differences in ICT enactment to support work activities but also the nature of work done in these departments that explain contradictory outcomes. Thus a more nuanced explanation is needed as to why mobile access to email can both worsen and improve work-life balance in different work settings. In the sales department, workers could better integrate work activities by checking emails from customers and then respond to them via phone while driving back home. This took pressure off sales staff to check and respond to customer inquiries from home in the evenings, whereas the interdependence of legal work increased pressure on legal staff to be available after hours.

Our study therefore extends earlier explanations and contributes to better understanding of inconsistent and paradoxical findings of telework effects by revealing and demonstrating the relevance of three dimensions of the nature of work in telework. The frequent presence and richness of evidence in the Yahoo! case discussion on the nature of work dimensions in our data suggest that the nature of work is highly relevant to understanding telework from a practice perspective. However, in current telework research, 'work' is often taken for granted and not problematized. It is therefore important to gain a better understanding of the kinds of work activities and work practices that are (or can be) supported by telework, and how technology is (or can be) productively used to facilitate different work activities (Mazmanian, et al. 2013; Morgan, 2004). As the debate resulting from Yahoo!'s telework ban highlights, ICT can support team interaction in different ways. While immediacy of response is of key importance in some work scenarios, avoiding in-

terruptions and allowing more time for a considerate answer is emphasized by others. Importantly, such viewpoints would not surface if only the outcomes of telework are assessed. Further investigation of the nature of work may thus reveal important insights into circumstances under which ICT can facilitate work practices, as well as what work practices are likely to be supported or interrupted by telework. However, to date, a thorough engagement and understanding of what and how different tasks may benefit from telework is overlooked in the literature.

Regarding practical implications, our findings suggest that telework policies need to take into account the type of work activities undertaken by particular employees, how these work activities are related to the broader work processes in an organization, and how telework arrangements can support them. This requires a case-by-case assessment of the suitability of different work activities for teleworking. Rather than suggesting a blanket approach based on a particular position or role, telework policies need to take into account the diversity of work activities knowledge workers are engaged in as part of complex work processes in an organization. Spending some days in the office and some at home may help in combining potential benefits for different work activities arising from teleworking without losing potential benefits arising from being co-located in an office. Co-location can, for instance, assist the development of shared knowledge, a sense of belonging, and transfer of skills among employees. Whereas working in solitude may be beneficial to work requiring uninterrupted concentration. Generally, knowledge work will require both. Allowing flexibility and selection of teleworking arrangements suitable for individual teams or departments can thus facilitate benefits associated with both teleworking and being co-located in an office. Similarly, temporary 'co-location' can be achieved by establishing specific times during the day when teleworkers are expected to be available for immediate interaction with their colleagues.

Conclusion

We started this paper by pointing out that from an ICT perspective, conditions for telework are at an all time high. However, companies are still reluctant to fully embrace the idea of telework. This reluctance may be partially explained by inconclusive, unclear and paradoxical outcomes associated with telework phenomena as demonstrated in the research literature (Gajendran and Harrison, 2007; Jarvenpaa and Lang, 2005; Sørensen, 2011; Wheatley, 2012). We suggest that telework research needs to engage more thoroughly with potential reasons for paradoxical findings instead of seeking to accumulate evidence in an attempt to demonstrate if telework is ultimately a 'good' or a 'bad' thing. So far very few studies engage with these paradoxes thoroughly.

We offer three dimensions for understanding telework and paradoxical findings in telework research: First, the complexity and mutual dependencies of situated work activities offers a more nuanced and in situ understanding of work practices and telework arrangements. Second, the diversity of work activities in which knowledge workers are engaged differ in their suitability to be undertaken as part of telework. And third, ICT enactment in work practices indicate the importance of understanding the ways ICT are enacted for assisting and enabling different work activities in specific work environments. Overall, these findings indicate that the nature of work (including ICT enactment in work practices) is important for better understanding telework in practice. However, to date, thorough engagement with this aspect as part of telework research is lacking.

We used naturally occurring data to investigate potential reasons for paradoxical findings in telework research. This approach made it possible to capture new angles and perspectives that are currently not thoroughly captured in the research literature. As our findings relied on secondary sources, they are only indicative of

actual telework practices as we did not directly observe or study teleworkers. Future research should therefore look more closely at actual telework practices to investigate how different work activities are experienced by teleworkers, their managers, colleagues and dependents. In particular the following questions are of interest for further investigation: (i) what types of work activities knowledge workers are engaged in and what kind of teleworking arrangements are adopted? (ii) to what extent do interactions with others, such as between team members, colleagues or clients, influence the suitability of these work activities for teleworking? (iii) how do personal preferences and situations of individual employees influence the execution of these tasks and their potential suitability to be undertaken as part of telework arrangements? (iv) how do ICT enactments and embeddedness in work practices enable and assist telework arrangements?

Acknowledgment

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