From anxiety to assurance: concerns and outcomes of telework

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Abstract
Purpose – This paper aims to compare pre-telework anxieties, expectations and motivators reported by 394 teleworkers with their corresponding actual experiences of telework.

Design/methodology/approach – Based on an organizational survey, 394 samples were generated who had been teleworking for less than 12 months at the time of the survey. By using $\chi^2$ tests, comparisons were made between pre-telework expectations and post-telework outcomes reported by teleworkers with different characteristics such as gender, job type, the presence of dependent children, and working hours spent at home.

Findings – The study found that prior to adopting telework sampled teleworkers tended to underestimate positive and overestimate negative experience of telework. It further demonstrated some statistically significant differences in pre-telework expectations and post-telework outcomes reported by different groups of teleworkers. For example, female teleworkers were more likely to report that telework made it easier to cope with caring responsibilities. Sales and marketing teleworkers were more likely to report reduced visibility and career development.

Practical implications – Implementing and maintaining successful telework schemes requires managers to take heed of the emotional aspects that accompany the use of such flexible work arrangements. Furthermore, career implications and the development of appropriate support structures for teleworkers need to be taken into account.

Originality/value – The contribution of this paper lies in the comparative approach between pre-telework expectations and post-telework outcomes. It compares different social and occupational groups.

Keywords Management of telework, Anxiety, Motivators, Outcomes, Human resource strategies, Human resource management

Paper type Research paper

1. Introduction
Propelled by the advance of information communication technology (ICT) and supported by changing expectations about the location and time of work, work organizations have burst their traditional boundaries and become “flexible”, “diverse” and “networked” (Wynarczyk, 2005). Concomitant with such spatial and temporal flexibility emerged new forms of work organization and employment practices, based on the relocation of work activity from the traditional office or factory into culturally different spheres, including the home environment (Kurland and Bailyn, 1999).

Legal changes, too, support the diffusion of flexible work arrangements as, for example, in the UK changes in employment legislation provide employees with the right to request flexible working. As a result, employers have a statutory duty to
seriously consider such requests (Grainger and Holt, 2005). In addition to such obligations the regularly reported benefits for employers include greater productivity, reduced accommodation costs, lower absenteeism, and effective recruitment and retention of staff (Green et al., 2003; Daniels et al., 2000).

Similarly, employees have taken to flexible work such as telework\[1\] to bring about positive changes in their lives, such as having more autonomy over working conditions; increasing work productivity; reducing commuting; decreasing stress and more easily managing child care (Reeves, 2003a; Tremblay, 2002). More recently, the discourse and practices of “work-life balance” projects have gained prominence in organizational and public arenas as they are closely related to organizational flexibility schemes. One such example is initiatives that introduce and sustain remote forms of work, including telework and home-based telework (Tietze et al., 2006).

Indeed, a recent Quarterly Labour Force Survey showed that the UK telework population increased from about one million in 1998 to 2.4 million in 2005 (Ruiz and Walling, 2005). This figure has risen to more than 2.8 million\[2\] in April to June 2009. Similarly, findings from the 2004 Workplace Employment Relations Survey also indicated that “homeworking” or telework is one of the major flexible working forms available for employees. For example, an estimated 14 per cent of UK employees report that telework is an available option (Kersley et al., 2006). While telework provides many benefits, it may also create challenges to the traditional ways of the workplace in such areas as exercising control, creating an effective and performance-oriented culture and ensuring that organizational goals are pursued in a purposeful manner. Thus, as telework grows, it is likely that new approaches to relating to and developing the workforce will be necessary.

In particular, human resource managers and line managers are called on to find innovative ways to engage with the workforce and to in turn ensure the continued engagement with and awareness of the workforce with strategic objectives (Daniels et al., 2000). Thus, the advent of flexible and teleworking practices poses testing and exciting times in particular for those experts who have the tasks of developing appropriate systems and structures to ensure the initial and sustained integration of teleworkers into the strategic thrust and advance of the organization. This task requires the reconsideration of managerial styles, training and development schemes, performance management (Hiltrop, 2000; Lamond, 2000) as well as of “softer issues” such as how to nurture an appropriate organizational culture and establish trust-based networked relationships (Standen, 2000). Such new approaches and systems can only be developed on the basis of a sound understanding of the reasons as to why employees choose telework, as well as an understanding of the experience of telework itself.

The paper begins with a brief review of some literature pertinent to teleworking and addresses how the current study contributes to the existing body of knowledge. The descriptions and explanation of the methods employed are followed by the presentation of the main findings, which compare pre-/post-telework experience as perceived by teleworkers and further focus on the differences in perspective and experience of telework by different groups of employees. These finding are further discussed in comparison with findings from past studies. The paper goes on to discuss how to manage the different stages of organizational telework schemes and the practical implications for managers. In concluding, it is suggested that a “temporal element” should inform future research on organizational telework as there are differences in the early implementation stages and the later stages of such schemes.
2. Motivations, concerns and experiences of telework

Studies which have researched pre-telework motivations have established that the main reasons for its uptake are: to reduce commute travel (Duxbury et al., 1998; Haddad et al., 2009; Harting et al., 2007; Tremblay, 2002); to increase flexibility during the daytime hours (Peters et al., 2004; Tremblay, 2002); to care for dependent children (Beasley et al., 2001; Harting et al., 2007; Sullivan and Lewis, 2001), to manage family commitment (Duxbury et al., 1998; Tremblay et al., 2006), to avoid interruptions in the office (Haddad et al., 2009), and to increase work productivity (Beasley et al., 2001; Hill et al., 1998, 2003; Teo and Lim, 1998; Teo et al., 1998). Although telework studies often focus on benefits of teleworking employees, it is at the same time employers and the requirements of the work which bring workers to home (Tremblay et al., 2006). For example, employers use telework as a means to reduce the expenditure on office accommodation (Daniels et al., 2000; Green et al., 2003; Hopkinson et al., 2002), or as a reward only to hard-working employees in order to develop a performance culture in their organisation (Taskin, 2009; Taskin and Edwards, 2007). Telework is also introduced to make the work more attractive to potential employees and to reduce turnover and absenteeism (Green et al., 2003; Daniels et al., 2000; Taskin and Edwards, 2007). In terms of concerns about adopting telework, researchers often quote potential tensions in relationships between teleworkers and other household members and partners due to work pressure (Baines, 2002; Baines and Gelder, 2003) and lack of opportunity to meet colleagues, managers, and business partners (Jackson, 1999).

Past studies on the outcomes of telework provide evidence that it reduces commuting travel (Baruch, 2000; Tremblay, 2003; Tremblay and Genin, 2007), provides greater flexibility to choose when/where to work (Duxbury et al., 1998; Harpaz, 2002; Hilbrecht et al., 2008; Hill et al., 1998, Hopkinson et al., 2002; Tietze and Musson, 2005; Tremblay, 2003; Tremblay and Genin, 2007), increases employee productivity/effectiveness (Baruch, 2000; Duxbury et al., 1998; Golden and Veiga, 2008; Hopkinson et al., 2002; Mann et al., 2000; Martinez-Sánchez et al., 2007; Tietze and Musson, 2002; Tremblay, 2003; Tremblay and Genin, 2007), reduces work-family conflicts (Lautsch et al., 2009), and makes it easier to handle caring responsibility (Hilbrecht et al., 2008; Kossek et al., 2006; Sullivan and Lewis, 2001) and household chores in general (Hilbrecht et al., 2008; Tietze and Musson, 2002). However, the flexibility of telework which creates positive outcomes listed above simultaneously brings about negative consequences including increased work-family tension/conflict (Baines, 2002; Baines and Gelder, 2003; Felstead and Jewson, 2000; Harris, 2003; Harting et al., 2007; Tietze and Musson, 2005; Tremblay, 2003; Ward and Shabha, 2001), reduction in visibility and decreased career development opportunities (Duxbury et al., 1998; Felstead et al., 2003; Harpaz, 2002; Harris, 2003; Mann et al., 2000; McDonald et al., 2008; Mokhtarian et al., 1998; Tietze and Musson, 2005), isolation (Tremblay, 2003), increased work hours (Baruch, 2000; Dwelly and Bennion, 2003; Tremblay, 2003), working exceedingly to compensate reduced visibility (Felstead et al., 2003), and extra expenditure on heating, lighting and other materials (Harris, 2003).

Reviewing the literature it is evident that there are both “negative” as well as “positive” outcomes to telework. Yet from these studies it is difficult to tell to what extent motivations and concerns translate into positive or negative experiences for teleworking individuals and also into organizational outcomes. Also, comparison between pre-telework experiences and post-telework outcomes based on same samples
is very rare in the literature (see Mokhtarian et al., 1998). Although a few studies (e.g. Duxbury et al., 1998; Tremblay, 2002) employ a before-and-after study approach, comparing teleworkers’ pre-telework and post-telework experience, the comparison seems not to be the main focus of the studies. While a number of telework studies classify teleworkers by socio-demographic variables such as gender (Beasley et al., 2001; Haddad et al., 2009; Sullivan and Lewis, 2001, Sullivan and Smithson, 2007; Tietze and Musson, 2002; Tremblay, 2003; Tremblay et al., 2006), age (Haddad et al., 2009; Walls et al., 2006), the presence of dependent children (Iscan and Naktyiok, 2005), and occupation (Haddad et al., 2009; Popuri and Bhat, 2003), there is no literature that compares pre-telework and post-telework experiences and outcomes for different groups of teleworkers. Thus, this paper will contribute to the current literature by comparing pre-telework motivations and concerns with perceived post-telework outcomes, classifying results by key socio-demographic variables.

Building on previous research, the current study will compare differences based on the following socio-demographic variables:

- gender;
- the presence of dependent children; and
- job type.

Haddad et al. (2009) argue that there have been increasing patterns of spacious and temporal flexibility under the umbrella term of telework and suggest that this greater flexibility of telework patterns can introduce potentially important implications to telework research. Indeed, Bailey and Kurland (2002) find for example that the level of perceived isolation and invisibility change greatly depending on how much/often teleworkers are away from the office and that this was the crucial aspect which the majority of previous studies ignored. Following these points, the study will use a variable which classifies teleworkers by proportions of working hours spent at different work locations. The study will also create another variable which combines teleworkers’ gender and proportions of working hours spent at home. This is to explore female teleworkers’ experiences in particular which might be associated with the amount of working hours spent at home.

**BT and telework**

British Telecommunications PLC is one of the leading providers of telecommunication services in the world with the 2007 revenue £20,374 million and is one of the UK’s largest employers, with 93,000 UK and 106,000 overseas employees (British Telecom, 2007). Starting with the first official telework scheme, the “Inverness experiment” in 1993 (Hills, 2002), BT employed more than 9,000 teleworkers by the end of 2004.

One of the major motivations for BT to implement telework is to decrease the expenditure on office accommodation (Hopkinson et al., 2002). A recent BT annual report states that BT have “vacated around 135 buildings and installed an additional 250 flexible workstations which can be shared by multiple users” (British Telecom, 2006, p. 12). Another BT annual report states that in March 2007, there were around 10,000 BT employees working from home, suggesting that their telework scheme has been growing.

BT provides ICT equipment and other support for its existing employees who are giving up a permanent BT office space to move to home-based, mobile working patterns. Apart from altering the main work location, there is no other alteration to the
condition of service or employment. Employees retain the right to use BT offices to work using hot-desking, hotelling[3] and have full access from home to the BT Intranet and communications systems such as conference calls (Hills et al., 2002). In this study, this group of BT employees are defined as teleworkers.

3. Methods

The overall objective of the empirical study was to find out whether there were any patterns between pre-telework motivations/concerns and post-telework outcomes, as reported by teleworkers of different demographic characteristics. To this purpose a cross-sectional survey-based research instrument was designed, which enabled the systematic comparison of motivations and concerns and the actual experience of telework across different demographic groups.

3.1 Participants

The targeted sample was a group of existing BT teleworkers. At the time of the survey (Summer 2002), there were 5,218 teleworkers with varying lengths of career as teleworkers. In this study, data from those teleworkers who had been teleworking for less than 12 months at the time of the survey were used. For this group could still recall their motivations and concerns prior to adopting telework. The final sample consisted of 394 teleworkers. Table I shows the demographic and main characteristics of the 394 teleworkers. Notably, the majority (70 per cent) of the samples were male aged 35 to 44 years old with dependent children (53 per cent) who were in managerial positions (52 per cent). Almost all the sample (98 per cent) was full-time workers, without having a main office (87 per cent) or a dedicated desk (98 per cent). Almost two-thirds of the sampled teleworkers had been teleworking for six to twelve months, and 91 per cent of them expected to continue their current teleworking style in the next 12 months at the time of the survey.

In this survey, the sampled teleworkers were asked to report proportional allocations of their working hours to different work locations such as home, BT offices, and other premises in the most recent and typical week. The sampled teleworkers spent, on average, the majority (80 per cent) of their working hours at home (58 per cent) and their BT offices (22 per cent). This study classified the sampled teleworkers by proportion of working hours spent at home and other work locations; the following four telework groups were created: “4H” teleworkers (91 to 100 per cent of working hours spent at home and 0 to 9 per cent elsewhere – n = 61), “3H” teleworkers (70-90 per cent at home – n = 89), “2H” teleworkers (40-69 per cent at home – n = 134), and “H” teleworkers (0-39 per cent at home – n = 94). The four teleworker groups were created while ensuring each of them contained enough samples for statistical analyses. In addition, in order to explore experiences reported by female teleworkers who spent different proportions of working hours at home, two groups of female and male teleworkers were respectively classified into two groups of different proportional working hours spent at home: Group 1 – 0 to 50 per cent and Group 2 – 51 to 100 per cent of their most recent and typical weekly working hours spent at home[4].

3.2 Questionnaire design

Mokhtarian et al. (1998) created a set of variables to examine teleworkers’ expectations toward adopting telework. They were used in this study. In addition, a further set of
variables of post-telework “outcomes” was devised, which corresponded with the question items by Mokhtarian et al. (1998).

Most of these variables contained at least 10 to 20 per cent missing data. Following Lynch (2003) and Hutcheson and Sofroniou (1999), variables were abandoned which contained large amounts of missing data and/or were less relevant. It was originally proposed of using ANOVA to compare pre-telework expectations and post-telework outcomes reported by different groups of teleworkers. The analysis however was not used as the data violated some important assumptions of the analysis including data of a number of variables being not normally distributed (Field, 2005). For this reason,

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gendera</td>
<td>Female</td>
<td>30.9</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>69.1</td>
</tr>
<tr>
<td>Age group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-24</td>
<td></td>
<td>3.0</td>
</tr>
<tr>
<td>25-34</td>
<td></td>
<td>17.3</td>
</tr>
<tr>
<td>35-44</td>
<td></td>
<td>41.4</td>
</tr>
<tr>
<td>45-54</td>
<td></td>
<td>36.0</td>
</tr>
<tr>
<td>55+</td>
<td></td>
<td>2.3</td>
</tr>
<tr>
<td>Dependent children?</td>
<td>Yes</td>
<td>52.5</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>47.5</td>
</tr>
<tr>
<td>Job typeb</td>
<td>Manager</td>
<td>52.2</td>
</tr>
<tr>
<td></td>
<td>Admin</td>
<td>15.3</td>
</tr>
<tr>
<td></td>
<td>Sales and marketing</td>
<td>15.3</td>
</tr>
<tr>
<td></td>
<td>Professionals</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>4.6</td>
</tr>
<tr>
<td>Full-/part-timec</td>
<td>Full-time</td>
<td>97.7</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>2.3</td>
</tr>
<tr>
<td>Have a main BT office to work?</td>
<td>Yes</td>
<td>13.5</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>86.5</td>
</tr>
<tr>
<td>Own a dedicated desk at the office?</td>
<td>Yes</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>97.5</td>
</tr>
<tr>
<td>How long have you been a teleworker?</td>
<td>Less than 3 months</td>
<td>15.2</td>
</tr>
<tr>
<td></td>
<td>3 to 6 months</td>
<td>24.6</td>
</tr>
<tr>
<td></td>
<td>6 to 12 months</td>
<td>60.2</td>
</tr>
<tr>
<td>Do you expect to continue your current tele-working style over the next 12 months?</td>
<td>Yes</td>
<td>90.6</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>9.4</td>
</tr>
<tr>
<td>Mean allocation of working hours in the most recent typical week (working hours per week = 100%)c</td>
<td>Home</td>
<td>57.5</td>
</tr>
<tr>
<td></td>
<td>BT offices</td>
<td>21.7</td>
</tr>
<tr>
<td></td>
<td>Travelling on work related business</td>
<td>11.7</td>
</tr>
<tr>
<td></td>
<td>One or more customers’ offices</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>Other BT facilities (e.g. training)</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0.9</td>
</tr>
<tr>
<td>Educational qualification</td>
<td>Undergraduate or above</td>
<td>33.0</td>
</tr>
<tr>
<td></td>
<td>Other qualifications</td>
<td>67.0</td>
</tr>
</tbody>
</table>

Notes: $^a_n = 388; ^b_n = 391; ^c_n = 378; n = 394$ otherwise stated

Table I. Demographic characteristics of the sampled teleworkers
chi-squared tests were selected to investigate differences in reported outcomes by certain groups of teleworkers. This study classified and grouped teleworkers by the following characteristics: gender, the presence of dependent children, job type, and working hours spent at home and other locations. In addition to the quantitative question items, respondents were also asked to elaborate on their perceived pre-telework anticipations and post-telework experiences by writing their comments in boxes provided.

4. Findings

4.1 Overview of telework motivations, concerns, and outcomes

This section presents pre-telework expectations and post-telework outcomes reported by teleworkers. Tables II and III show pre-telework motivations/concerns and post-telework outcomes in the second and third columns, and the last column shows the difference between the two (Post-telework – Pre-telework). It shows that the larger the difference, the greater under- or over-estimation teleworkers had made with regard to each of the statements prior to teleworking. The first main finding is that the difference between motivations and the outcome are mainly positive, suggesting that some teleworkers experienced positive post-telework outcomes which they had not anticipated initially (see Table II). The top three statements (i.e. having more control over working environment, more independence, and driving less) show differences of nearly 20 per cent or more. It seems that these positive outcomes had been under-estimated among many of the teleworkers prior to teleworking.

<table>
<thead>
<tr>
<th>Pre-telework</th>
<th>Post-telework</th>
<th>Difference (Post – Pre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per cent</td>
<td>n</td>
<td>Per cent</td>
</tr>
<tr>
<td>To have more control over working environment</td>
<td>55.8</td>
<td>346</td>
</tr>
<tr>
<td>To have more independence</td>
<td>35.7</td>
<td>342</td>
</tr>
<tr>
<td>To help the environment by driving less</td>
<td>37.4</td>
<td>340</td>
</tr>
<tr>
<td>To save money</td>
<td>40.3</td>
<td>345</td>
</tr>
<tr>
<td>To make it easier to help with caring responsibilities</td>
<td>25.4</td>
<td>335</td>
</tr>
<tr>
<td>To get more work done</td>
<td>75.0</td>
<td>344</td>
</tr>
<tr>
<td>To reduce commuting stress</td>
<td>73.8</td>
<td>347</td>
</tr>
<tr>
<td>To have more time for myself</td>
<td>45.1</td>
<td>339</td>
</tr>
<tr>
<td>To have more time for family</td>
<td>48.7</td>
<td>339</td>
</tr>
<tr>
<td>To have more flexibility</td>
<td>83.3</td>
<td>347</td>
</tr>
</tbody>
</table>

Table II.
Frequently reported motivations and positive outcomes – greater importance and agreement (%)

<table>
<thead>
<tr>
<th>Pre-telework</th>
<th>Post-telework</th>
<th>Difference (Post – Pre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per cent</td>
<td>n</td>
<td>Per cent</td>
</tr>
<tr>
<td>Loss of professional interaction</td>
<td>52.5</td>
<td>347</td>
</tr>
<tr>
<td>Loss of social interaction</td>
<td>54.0</td>
<td>348</td>
</tr>
<tr>
<td>Loss of visibility and career development</td>
<td>24.9</td>
<td>345</td>
</tr>
<tr>
<td>Less motivation to work as a teleworker</td>
<td>15.0</td>
<td>346</td>
</tr>
<tr>
<td>Being viewed negatively by management</td>
<td>16.7</td>
<td>347</td>
</tr>
<tr>
<td>More family conflicts</td>
<td>10.1</td>
<td>345</td>
</tr>
</tbody>
</table>

Table III.
Frequently reported concerns and negative outcomes – agree strongly/completely (%)
differences in the bottom four statements (less commuting stress, more time for oneself and family, and more flexibility) are less than 10 per cent, suggesting that the majority of teleworkers had correctly presumed that they would obtain the benefits as a result of telework. The table also shows more than 80 per cent of respondents agreed strongly/completely that they gained greater control over working environment, got more work done, reduced commuting stress, and obtained greater flexibility. This simply shows that telework benefited the majority of teleworkers in these areas of their lives.

In terms of pre-telework concerns and post-telework negative outcomes, Table III shows that the majority of teleworkers did not report as many negative outcomes as they initially expected prior to teleworking. Almost all the differences between concerns and reported outcomes were negative, indicating that the teleworkers might “overestimate” telework concerns. For example, “No professional/social interaction” was rated most highly as a pre-telework concern (more than 50 per cent), although only 24 and 33 per cent of respondents “agree strongly/completely” that they actually lost professional/social interactions. This is followed by reduced visibility and career development; one in four teleworkers agreed strongly/completely that they had anticipated it prior to teleworking, yet only 12 per cent reported it as an outcome with the same level of agreement.

4.2 Motivations and outcomes: perspectives by different groups
The study further identified some patterns of how different groups of teleworkers reported their pre-telework expectations and post-telework outcomes.

4.2.1 Family conflicts. One of the concerns teleworkers reported was an anticipation of increased family conflict. Male teleworkers were 2.5 times more likely than female teleworkers to “agree completely” that “More family conflicts” was a telework concern ($\chi^2(2) = 25.906, \rho < 0.001$). One male teleworker made the following comment:

Conflict with being at home and “at work” at the same time has been hard - it is more difficult to “ignore” my partner when she is at home and I am “at work”. It is easier to ignore open-plan office noise than home noise! (Male – 6-12 months – 20 per cent at home – Manager – no dependent children.)

On the other hand, female teleworkers were 1.5 times more likely than male teleworkers to disagree with this. Furthermore, female teleworkers with dependent children were twice as likely than their male counterparts to disagree that having more family conflicts was a telework concern ($\chi^2(8) = 24.504, \rho < 0.001$). As for the actual experience of increased family conflict, female teleworkers with dependent children were more likely to disagree than their male counterparts that they experienced increased family conflicts ($\chi^2(2) = 7.093, \rho = 0.029$).

4.2.2 Caring responsibilities. Comments made by female teleworkers illustrate how time-flexibility of telework enabled them to manage both work and caring responsibilities:

If you need to do extra work you can fit it around family commitments i.e. when the children have gone to bed (Female – 6-12 months – Manager – 70 per cent at home – one dependent child).

I can reconnect post children’s bedtime rather than rushing to finish a task to get home from the office (Female 3-6 months – Manager – 20 per cent at home – one dependent child).
Time-flexibility, which was mainly created by the fact that work and family life take place at teleworkers’ homes, appeared to assist teleworkers in managing both work and caring responsibilities without compromising either of them. Furthermore, quantitative analysis suggested that other groups of teleworkers also felt telework helped them manage caring responsibilities and work, which was also a motivation to telework; female teleworkers, teleworkers with dependent children, and female teleworkers with dependent children were more likely to report that “To make it easier to help with caring responsibility” was an “extremely important” motivation for them to adopt telework than their male counterparts ($\chi^2(3) = 8.986$, $\rho = 0.029$), those without dependent children ($\chi^2(3) = 58.945$, $\rho < 0.001$), and their male counterparts with dependent children ($\chi^2(2) = 22.985$, $\rho < 0.001$), respectively. Teleworkers who spent more than 90 per cent of their working hours at home (4H teleworkers) were also more likely to see it “extremely important” ($\chi^2(6) = 15.833$, $\rho = 0.015$) compared with any other teleworkers. In particular, 4H teleworkers were 2.5 times more likely to report so compared with those teleworkers who spent 0 to 39 per cent of their working hours at home (H teleworkers). A further analysis showed that among those teleworkers with dependent children, “4H” teleworkers were more likely to “agree strongly/completely” that making it easier to cope with caring responsibilities was a motivation to start to telework ($\chi^2(6) = 12.951$, $\rho = 0.044$) than other teleworkers. However, among those teleworkers without dependent children, this was not true to any types of teleworkers including 4H teleworkers. It seems that having dependent children played an important role in affecting teleworkers’ decision to choose certain types of telework with longer working hours at home, particularly 4H telework, in order to facilitate caring responsibility. This is probably because it was felt that working from home for the majority of working hours enabled teleworkers to have more opportunities to flexibly organise work and childcare than other types of telework where they spend fewer working hours from home.

As for the corresponding perceived outcome, the first three groups of teleworkers (female teleworkers, teleworkers with dependent children, and female teleworkers with dependent children) were more likely to “agree completely” that being teleworkers made “it easier to handle dependent care” than their male counterparts ($\chi^2(3) = 15.855$, $\rho = 0.001$), those without dependent children ($\chi^2(3) = 56.252$, $\rho < 0.001$), and male teleworkers with dependent children ($\chi^2(3) = 27.648$, $\rho < 0.001$). Furthermore, 4H teleworkers were more likely to “agree completely” on the statement ($\chi^2(9) = 26.240$, $\rho = 0.002$) than any other teleworkers. Particularly, 4H teleworkers were more than five times more likely to “agree completely” on the stated experience compared with H teleworkers. Among those teleworkers with dependent children, 4H teleworkers were more likely to “agree completely” that telework made it easier to help with caring responsibility ($\chi^2(9) = 33.559$, $\rho < 0.001$). The pre-telework expectation of the majority of 4H teleworkers with dependent children to make it easier to cope with caring responsibility was actually fulfilled. Among those teleworkers without any dependent children, however, statistically significant difference was not found in the statement between different types of teleworkers.

4.2.3 Perceived productivity. With regard to perceived changes in productivity, marketing and sales teleworkers were 1.7 times more likely to report that “To get more work done” was an “extremely important” telework motivation ($\chi^2(8) = 22.043$, $\rho = 0.005$). However, job type or any other socio-demographic variables did not make a significant difference to teleworkers’ perceived productivity as a post-telework outcome.
4.2.4 Reduced visibility and career development. Reduced visibility and career development seemed to be gender-specific and was also influenced by the presence of dependants. Female teleworkers with dependent children were 2.6 times more likely than their male counterparts to report that reduced work visibility/career development was a telework concern ($\chi^2(2) = 17.252$, $p<0.001$). In terms of the post-telework outcomes reported, female teleworkers and female teleworkers with dependent children were more likely to report reduced visibility and career advancement than their male counterparts ($\chi^2(2) = 10.902$, $p=0.012$) and male teleworkers with dependent children ($\chi^2(2) = 10.763$, $p=0.005$), respectively. Furthermore, female teleworkers who spent more than 50 per cent of their working hours at home were 2.3 times more likely than their male counterparts to “agree completely” that they experienced them ($\chi^2(2) = 7.729$, $p=0.021$). The following comments show some examples of reduced visibility perceived by female teleworkers mainly due to the physical separation from the main office or their team:

[I find difficult] Loss of professional and social environment within the office. I am a sociable person and find sometimes the isolation a bit overpowering (Female 6-12 months – no data on time allocation - Design and delivery training manager - no dependent children).

More difficult to get visibility at higher management level - Out of sight out of mind! (Female 6-12 months – 65 per cent at home – Manager – No dependent children).

[I want] Social/professional interaction - miss people popping by to ask questions/ seek advice etc. which they don’t seem to do quite so freely by telephone (Female 6-12 months – 75 per cent at home – Legal and regulatory – two dependent children).

Have found that work colleagues do not contact me at all for social chats. Have felt disappointed in this respect (Female 6-12months – 100 per cent at home – Central support – two dependent children).

Sales and marketing teleworkers also reported the same negative experience; they were 1.8 times more likely to “agree strongly/completely” than those in other fields that they experienced reduced visibility and that they encountered career development issues ($\chi^2(8) = 16.752$, $p=0.033$). As to perceived professional interactions, teleworkers with professional jobs were 1.7 times more likely than others to “agree strongly/completely” that they experienced lack of professional interactions ($\chi^2(8) = 18.370$, $p=0.019$). The comments below made by two sales and marketing teleworkers show struggles to deal with reduced visibility and to compensate for it:

I miss social/professional interaction more than I thought and it’s quite hard to compensate for it (Male 6-12 months – 60 per cent at home – Sales – two dependent children).

Isolation – at least one team member calls me daily even if to say Hi. This is after we raised it as an issue in one of our work shops, it helps and the isolation is barely there. The only things you are left out of are the normal conversations in an office (Female 6-12 months – 85 per cent at home – Marketing – no dependent children).

5. Discussion
The study has identified patterns in pre-telework motivations and concerns, and corresponding post-telework outcomes reported by teleworkers in various demographic groups. First, using all 394 teleworkers, the study found that teleworkers seemed to
underestimate some positive post-telework outcomes including having more control over working environment, having more independence, and helping the environment by driving less. At the same time, the majority of the teleworkers had correctly anticipated some other positive outcomes such as having more time for oneself and family, reducing commuting stress, and having more flexibility. In particular, having greater flexibility was reported with almost an equal level of agreement as both a pre-telework motivation and a post-telework outcome (83 and 82 per cent, respectively) among teleworkers. This finding is consistent with the research done by Duxbury et al. (1998) who found through interviews that having greater flexibility was one of the most popular motivations to start telework, and that having flexibility to set hours and schedule was among the most frequently quoted post-telework advantages by respondents. Similarly, Tremblay (2002) also found having time flexibility was an important reason particularly for teleworkers with a spouse and children so as to achieve a better balance between work and family commitment. In the same study, having greater flexibility was also reported as a positive outcome by the majority of sampled teleworkers although the motivation and outcome were not compared among the same group of teleworkers with a spouse and children.

We also found that the majority of the sampled teleworkers reported greater perceived productivity as both pre-/post-telework experience (75 per cent as pre-telework and 86 per cent as post-telework experience). Greater productivity as a perceived telework outcome is widely reported in past studies (Baruch, 2000; Duxbury et al., 1998; Golden and Veiga, 2008; Hopkinson et al., 2002; Mann et al., 2000; Martinez-Sánchez et al., 2007; Tietze and Musson, 2002; Tremblay, 2003; Tremblay and Genin, 2007), although pre-/post-telework comparison on this outcome has not been made in past studies.

In terms of pre-telework concerns and corresponding negative post-telework outcomes, our study found that more than half of sampled teleworkers reported loss of professional and/or social interaction as major concerns, and about a quarter of the sample, reduced visibility/career development. However, these pre-telework concerns became major disadvantages among only smaller proportions of teleworkers. Similarly, the tendency to overestimate negative outcomes was found among the sample with regard to other negative outcomes (i.e. less motivation to work, being viewed negatively by management, and more family conflicts). It is interesting to note that the sampled teleworkers tended to overestimate the negative and underestimate the positive outcomes, but researching this is beyond the scope of this study. This study quantitatively compared pre-telework motivations/concerns and post-telework positive/negative outcomes, thus contributing to this area of research.

Observation of these results suggests that telework appears to benefit the majority of employees, both in terms of their work productivity and their family life. Overall, the findings suggest that the majority of the teleworkers seemed to report positive outcomes, and only a small number of them appear to perceive negative outcomes, which are also found in past studies (e.g. Baruch, 2000; Kossek et al., 2006; Mann et al., 2000; Martinez-Sánchez et al., 2007). This positive finding confirms that “telework works” in delivering benefits to the employer and the employee. This simple insight may be particularly useful during implementation stages where the change process evokes nervousness and anxiety in many participants (Tietze et al., 2006). Practically speaking, preparatory activities such as briefing events, workshops and documentation can mitigate anxieties and concerns teleworkers and their managers may have. Through these activities, their concerns are shared by many of their
colleagues. Encouragingly, there is strong evidence that the struggle to balance work and life is unlikely to last long (e.g. Duxbury et al., 1998), and that it is much more likely to provide opportunities to balance work and life in ways that suit both sides of the employment relationship (Baines and Gelder, 2003; Maruyama et al., 2009; Tietze and Musson, 2002).

In the introductory stages of telework schemes it is vital to control the emotiveness that surrounds the change and to use available knowledge to manage this process constructively, including the provision of advice and guidance in the early stages of the collective learning curve. Frequently, employers are reluctant to interfere in the home lives of employees – yet, the relocation of work into the home is already an intrusion into the domestic sphere and it is argued therefore that the employer has a responsibility to give proper support to employees in resolving resultant issues (Harris, 2003).

Examining data reported by teleworkers with different demographic and occupational characteristics, this study identified the following three patterns where teleworkers with certain demographic characteristics were more likely to report certain pre-/post-telework experiences. Each of these patterns then is followed by discussions on how to manage these specific groups of teleworkers in terms of the practical implications for successful telework schemes.

5.1 Pattern one: work and care responsibilities

The first pattern relates to the ability to have more time and greater time flexibility to assume work and care responsibilities. Certain teleworkers (namely, female teleworkers in general, teleworkers with dependent children, female teleworkers with dependent children, and 4H teleworkers (or teleworkers who spent more than 90 per cent of their working hours at home)) were more likely to see dealing with caring responsibilities more effectively as an “extremely important” motivation to opt for telework, which was also a telework outcome. It may be that more time generated by reduced commuting travel and greater time flexibility made telework an attractive option for them in order to effectively manage work and caring responsibilities. The study also suggested that the majority of 4H teleworkers seemed to opt for this telework style with long working hours spent at home in order to deal effectively with child care responsibilities; their ambition also being fulfilled as a result of telework. These groups of teleworkers were more likely to be successful in re-negotiating the work and non-work boundary to manage caring responsibilities more effectively. The experience of these teleworkers appears to be an example of a more integrated life, which Tietze and Musson (2005) found in their sampled teleworkers who gained the reward of finding and spending additional time on non-work activities while managing the boundary between work and home/family life. The findings above also seem to imply, on one hand, that traditional gender roles of a male breadwinner and a female caregiver is a norm among sampled teleworkers where female teleworkers see caring for dependants as a part of their role within the household (Sullivan and Lewis, 2001; Sullivan and Smithson, 2007). On the other hand, we also found that teleworkers with dependent children were also more likely to assume work and caring responsibilities in a positive way regardless of their gender. This may be indicative of increasingly more women having come to play an important role in the labour force and men being expected to take greater caring responsibilities (Reeves, 2003b).
As a discussion point, for managers, it may be important to realise workforce expectations about being able to assume both work and life activities, including expectations of the employer to provide such opportunities. Here, the patterns in the findings clearly show that the advance of women into the labour market have challenged the traditional temporalities and geographies of work. Thus, employers should remain responsive to such expectations and continue to develop and refine the schemes and offers to the workforce. Here, the managing of telework can be seen as a continued effort to remain a progressive and modern employer – one who is able to attract and retain talented staff. Practically, such knowledge about workforce motivations and experience can be translated into recruitment material and an image as well as an identity of an employer as open and responsive to the changing expectations and needs of the workforce. Pattern two (see below) also points to gendered needs and expectations of female teleworkers. Thus, being aware of such difference while coping with them in an equitable manner is a requirement of managers as it informs the longer-term management of telework schemes.

5.2 Pattern two: career advancement and visibility – the female perspective

The second pattern is that female teleworkers, particularly those with dependent children or those who spend more than 50 per cent of their working hours at home, were more likely to report reduced visibility and lack of career advancement as post-telework outcomes. Past studies also show the association between being female teleworkers and less visibility or the absence of colleagues (Sullivan and Lewis, 2001; Tremblay, 2003). Mothers who volunteered to telework have caring responsibility in their non-work life and “may be viewed by management as having a lower commitment to work, and hence, may have a higher likelihood of being passed over for promotion or for challenging assignments” (Mokhtarian et al., 1998, p. 1229). Furthermore, working from home for longer hours often means proportionately reduced visibility at the office. Being present at the office is often seen as a “measurement of performance, or willingness to perform” (Rognes, 2002) thus working away from a main office may work unfavourably against teleworkers’ relationship with their employer (Harris, 2003) and career development (McDonald et al., 2008). It is worth noting, however, that it was female teleworkers rather than their male counterparts who were more likely to report the reduced visibility and lack of career development opportunities, which are consistent with findings from past studies (Sullivan and Lewis, 2001, Tremblay, 2003).

From a managerial viewpoint, an important issue may thus be awareness of these perspectives. Baruch (2000, p. 46) argues that organisations need to “develop innovative career paths, and put in place proper support mechanisms for teleworkers”. Practically, this finding may imply that there is a need to find ways to reduce “invisibility” – such as having informal “buddy systems”, regular call back days – and to ensure that communication and information systems integrate “low visibility workers”. Such systems and events are visible efforts to create a cultural environment, which is antithetical to a culture of presenteeism, where performance, visibility, and reward and promotion are directly related. Part and parcel of culture management is the implementation of human resource systems and performance management systems which support the existence of “less visible” workers and which ensure that rewards and promotions are given fairly based on performance rather than on visibility.
5.3 Pattern three: career development and visibility – occupational perspectives

The third pattern also relates to (reduced) visibility and career development reported by, in this case, sales and marketing teleworkers and teleworkers with professional occupations. These groups were more likely to report lack of professional interaction as a result of practicing telework. The majority of teleworkers in this study (97.5 per cent) reported that they no longer had their dedicated office desks, which probably reduced opportunities to meet their colleagues and bosses for exchanges of information on an everyday basis. Particularly in the case of sales and marketing teleworkers, visiting customers is a major part of their work, which may limit the density and size of their colleague networks even more. Indeed, a further analysis shows that compared with sampled teleworkers in other occupations, sales and marketing teleworkers spent on average the largest proportion of working hours, a third of their working hours, at customer premises (14 per cent) and business travel (17 per cent). This work pattern of sales and marketing teleworkers is more likely to reduce opportunities to interact with their colleagues and managers and to receive administrative support, which was also reported in a study by Harris (2003) among her sampled sales teleworkers. In her study, reduced interactions and visibility were further exacerbated by lack of support from management, resulting in an increase in employee turnover from six per cent to 20 per cent within a year. This shows that conscious managerial support seems essential for a successful telework scheme, which should go hand in hand with the effort of telework employees. For example, one sampled teleworker’s comment illustrates his effort to maintain his visibility at work; “I can focus on the tasks and activities needed, rather than getting caught up in office discussions, about football or last nights TV. This is however key to building a team, and hence I go into the office at least twice a week” (cited from Maruyama, 2005, pp. 195-196). Indeed, social interactions with other colleagues provide an important base for professional development (Dahl and Pedersen, 2004; Lal and Dwivedi, 2009), greater productivity (Neufeld and Fang, 2005), and for job satisfaction (Golden, 2006; Golden and Veiga, 2008). Although teleworkers can share their expertise through other communication means such as e-mail or telephone, face-to-face communication is necessary for developing solid personal relationships (Haythornthwaite, 2001). Professionals need to share and improve their expertise constantly, and this information sharing activity may suffer from lack of face-to-face communication.

Pattern three relates to the loss of knowledge for the employer as the two identified groups can be considered to be core staff, whose expertise and knowledge forms the basis of organizational success. Thus, ensuring that for individual employees opportunities for developing and exchanging their occupational knowledge are provided, is a key strategic task. Frequently, such knowledge is informal, spontaneously shared, takes the forms of anecdotes and stories and is difficult to capture and harness. The key to mitigate professional isolation, ensure career advancement and facilitate organizational learning appears to depend on the extent to which organizations value professional development activities such as informal learning, mentoring, interpersonal networking and the level to which teleworkers can make use of these opportunities (Cooper and Kurland, 2002). Appropriate organizational or managerial support and or teleworkers’ own efforts seem essential in these cases to be able to maintain effective professional interactions and the continued sharing of knowledge and experience.
In sum, there are short-term and long-term issues to take into consideration in the management of telework. Immediate short-term issues occur during the introductory and early stages where worries and fears cloud and hamper its smooth introduction. Yet, it is possible to manage the transition efficiently through being aware and acting on information provided from this and other studies. Longer-term issues may relate to the creation and management of particular cultural environments which are helpful in counteracting the reduction in visibility and perceived career advancement of different groups of teleworkers. A further consequence of the location of parts of the key workforce into the home will require the development of new communication networks between home-located workers and office-located workers (e.g., Taskin and Edwards, 2007; Tietze et al., 2006) as traditional cultural assumptions about how, where and when knowledge is shared no longer apply to multi-located workforces. Thus, ensuring that knowledge remains a collective and shared property of the organization and establishing supportive processes and structures will remain a key challenge in managing the cultural aspects of telework.

6. Conclusion
The empirical part of this paper revealed that prior to teleworking, teleworkers tended to underestimate positive and overestimate negative experience as a result of telework. Understanding the tendency to overestimate/underestimate telework outcomes found in this study may be an interesting topic to be pursued in future research. It also showed that the experience of telework is generally a positive one and that pre-telework concerns did not materialize into the lived experience of teleworkers. Thus, this study supports the idea that telework is likely to benefit both the employee and the employer in many ways. However, a more detailed analysis based on the “comparative” approach showed that certain groups of teleworkers might be more affected by some of the negative outcomes of this form of work. In particular, female teleworkers, especially those with dependent children or those who spend more than 50 percent of their working hours at home, sales and marketing teleworkers, and teleworkers with professional job roles were more likely to report the disadvantage of reduced visibility and career development as a result of telework. It was suggested that conscious efforts from both employers and employees were necessary to overcome this issue. The discussion around this highly relevant issue was mainly based on data obtained from one questionnaire item, thus further research on this topic is desirable.

For those in charge of managing telework, the implications of the findings are to differentiate between different stages of the telework experience. The early stages require the management of emotiveness encompassing organizational change. Then the later stages require clear differentiating between the needs of different organizational groups and an understanding of how to integrate their knowledge to advance the organizational intent. The impact of geographically and temporarily dispersing the organization changes its cultural and social topography, which in turn affects organizational knowledge systems and flows. In times where the careful management of organizational knowledge is equivalent with the harnessing of competitive advantage, a key task of (human resource) managers remains to ensure that integrative mechanism and systems are established which align the knowledge, productivity and aspirations of teleworkers with organizational goals and objectives.
The study findings and discussions are based on data collected from 394 teleworkers at BT, which accounts for a small proportion of the total BT teleworkers. Thus the findings and discussions in this paper need to be treated with this in mind. For future research, there is a need for longitudinal, comparative research as many of the consequences of introducing and practicing telework only unfold slowly over time. The research is also useful because little is known about how in the long-term organizations need to respond to the challenge of channelling knowledge through increasingly flexible and diverse systems and structures.

Notes
1. A teleworker is often defined as home workers who “used a telephone and computer to carry out their work” (Ruiz and Walling, 2005, p. 419).
2. An analysis was carried out by the authors using data from the Quarterly Labour Force Survey (April-June 2009).
3. Hot-desking or hotelling teleworkers are those who come to the office frequently but do not have their own fixed office space (Davenport and Pearlson, 1998).
4. Having more than two groups of working hours spent at home led to violating an assumption of having no fewer than five expected frequencies per cell in a chi-squared test. In order to avoid this, the authors decided to create two groups of 0 to 50 per cent and 51 to 100 per cent of working hours spent at home. 378 teleworkers reported their working hour allocations, and 47.1 per cent (178) of them spent 0 to 50 per cent of their working hours at home, and 52.9 per cent (200) of them, 51 to 100 per cent.

References


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