



IBES

Institute for a
Broadband-Enabled Society

Telework, productivity and wellbeing

Productivity [in terms of telework] is to be able to work through the activities that I need to get done within the time frame given. So the ability to meet the deadlines I have imposed on myself.

Strategic Solutions Director, InfraStructCo

*I think there's **wellbeing** associated with having time and space to focus on a task so I think in terms of job satisfaction to be able to move on some tasks that are enhanced by a quieter work environment which is focused on tasks, because the way I organise it I'm very clear about what I want to achieve on those days I work from home. It's satisfying and it flows on to **wellbeing** - feeling that you can actually progress tasks very effectively by the use of telework.*

Project Manager, GovernCo

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Project team

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Executive Summary

This project explored perceptions, issues and key considerations that relate to productivity and wellbeing of hybrid teleworkers in Australia. Hybrid telework is a way of work in which teleworkers work between one and two days from a location other than the workplace; in most cases this means working from home.

We interviewed 28 employees across six different medium to large organisations from private and public industry sectors. We were interested in both management and employee perspectives of telework in terms of productivity and wellbeing. Interviews were conducted to gather rich data about participants' perceptions and feelings about telework, the impact of telework on individual and team productivity and individual wellbeing. Additionally we analysed daily logs of employees' telework experiences from three teams of teleworkers across four work days (two telework days and two non telework days).

Results relating to individual and team productivity were positive and indicate that telework is a viable alternative to face-to-face work that can yield productive outcomes for both employers and employees. The study also revealed that successful telework is contingent on a number of factors, including the following:

- Telework requires a different management style based on trust and management of clearly defined individual and team deliverables based on shorter (or day-to-day) time frames.
- Trust from a management and worker perspective is important to foster a productive work environment.
- Specific collaborative IT tools are required to enable teleworkers to work seamlessly from anywhere, and contribute to individual and team productivity.

Results on individual wellbeing and telework were positive and unanimous across all participants in terms of the following:

- Working away from the office engenders a more positive attitude towards work.
- Teleworkers feel 'more in control' of their work, which in turn eases work-related stress.
- Family and work life can be better balanced when working away from the office.
- Fewer or no work-related interruptions add to a general feeling of wellbeing.
- The ability to hybrid telework often makes workers feel more productive, fosters individual wellbeing, promotes better work-life balance and creates a more positive attitude towards work.

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1. Telework, productivity and wellbeing

1.1 Telework

Telework (also called 'teleworking' or 'telecommuting') is defined as "...a flexible work arrangement whereby workers work in locations, remote from their central offices or production facilities, with no personal contact with co-workers, but the ability to communicate with co-workers using ICT" (Di Martino & Wirth 1990). Telework is not a new concept and has been around for at least twenty years. However it is only recently that telework has become a new, attractive way of working with the uptake of modern Web 2.0 and mobile technologies (Richardson and Benbunan-Fich, 2011; Turetken et al, 2011). Recent developments in networking and collaboration tools such as these are rapidly changing traditional workplaces around the globe (Bayrak, 2012; Richardson and Benbunan-Fich, 2011).

Currently more than 43 million workers in the US are hybrid teleworkers, meaning they occasionally work from their homes or away from the office. A 2009 forecast indicates that telecommuting would rise to include 43% of US workers by 2016 (Shadler, 2009). UK statistics indicate that approximately 3.2 million people were conducting one or more forms of telework in 2007. In 2005 the Czech Republic was the EU country with the highest incidence of employees that telework a quarter of their time or more (15.2%) (EirOnline, 2010). Since definitions of telework vary throughout Europe, there are currently no recent, comparable statistics available on telework for both the EU and UK.

The ability to work from anywhere using modern collaboration and communication technologies has not yet been fully embraced by Australian organisations. Compared to other OECD countries in the world, Australia lags behind in terms of telework, with approximately 17% of its workforce working away from the office at various times (ABS, 2008). Considering the social, economic and organisational benefits of telework, it is unclear what factors hinder the uptake of telework in Australia.

Even though there is a large body of research on telework covering a variety of aspects and related areas, there is a noticeable gap in the research that explores the impact of telework on productivity and wellbeing. If telework can enable a more productive workforce, with a better sense of wellbeing, then organisations – including those in Australia - may be better empowered to drive changes in their workplaces. This research explores these issues through management and worker perspectives on telework, productivity and wellbeing.

1.2 Productivity

It is argued that variations of telework (e.g. part-time or partial telework arrangements) may boost organisational and individual productivity (Pyöriä, 2011). However, claims about higher productivity are often self-reported and made without careful consideration of how managers perceive individual and team productivity.

Productivity can relate to an individual or a team and is a measure of how effectively and efficiently assigned tasks are completed over time. More specifically in terms of telework, it can be described as *the attainment of measurable goals within time and on budget*.

The measurement of productivity is complex since there are a number of variables that need to be considered such as: the type of task(s) to be completed, level of skills and/or expertise required to complete one or more tasks, and resources available and required to support successful completion of tasks (Baker, Avery and Crawford, 2006).

Productivity measures from the software development domain (in the form of estimates that relate to programmer productivity) have been suggested for telework (Westfall, 2004). However, these measures cannot be applied to yield an accurate measurement of productivity in the context of telework because not all tasks can be measured in this manner. Additionally our research findings indicate that there are key factors that contribute to teleworker productivity from a management and worker perspective as outlined in Section 3.

1.3 Wellbeing

In addition to a lack of research on the link between telework and productivity, there is also a gap in the research that explores the link between telework and wellbeing.

Prior studies on wellbeing argue that the level and combination of certain features in the workplace affect an individual's wellbeing and have tested the relationship between job characteristics and health outcomes. Specific aspects that determine an individual's wellbeing in terms of work may include: an individual's perceived control over his/her work, application of individual skills in the work, expectations of the work, degree of repetition, clarity, fairness of rewards, and feelings of satisfaction (Jeurissen and Nyklicek, 2001; Warr 1990).

In this study we focused on individuals' perceptions of contributing factors of wellbeing and the extent to which productivity increases an individual's sense of wellbeing.

2. Collecting evidence: interviews and day experience data logs

In an attempt to explore telework, productivity and wellbeing, we followed a predominantly qualitative research method which we complemented with some quantitative data in the form of participants' logging their actual day experiences of four consecutive working days as outlined in Section 2.2.

2.1 Study participants

We collected data from 28 participants, including 25 hybrid teleworkers and three non-teleworkers across six Australian-based organisations from the education sector, government sector and private enterprise. Participants were based in various locations, including Greater Melbourne, Sydney, Newcastle, Brisbane, Perth, Adelaide and Dubbo, and were carefully chosen based on their hybrid mode of telework. We were specifically interested in both management and worker perspectives of telework. As a result we recruited teams of teleworkers from the six case organisations so that we could get management, team and individual perspectives on telework. Three non-teleworkers were also invited to share their views on productivity and wellbeing. Table 1 summarises case organisations, industry sectors and participant details for the study. Pseudonyms have been used for the case organisation names to protect the organisations' identity.

Case organisation pseudonym	Type of industry	Number of participants and team details	Roles interviewed
1. EduCo	Tertiary: Research Institute	1 manager	Director
2. EducoIT	Tertiary: TAFE	1 manager and 2 workers (full team participated)	Infrastructure and IT manager Senior Systems Administrator and Network Administrator (non-teleworker)
3. NetworkCo	Network and collaborative solutions	5 managers and 5 workers (1 team with 1 manager and 3 workers participated)	Regional Sales Managers, Project Managers (including 1 non-teleworker), Consulting Engineer, and Regional Sales Team members
4. GovernCo	Council	3 managers and 1 worker	Project Managers and Education Officer
5. InfraStructCo	Network infrastructure solutions	2 managers and 1 senior role	Strategic Solutions Director, National Solutions Architect Manager and Solutions Architect
6. TestCo	Banking: Investment and Superannuation services	1 manager and 6 workers (full team participated)	Application Testing Manager and 6 Testers including 1 non-teleworker

Table 1. Details of participating case study organisations

2.2 Data collection

Data collection took place over a period of three months and involved two phases. The first phase comprised an individual interview with each participant. Interview questions focused on capturing participants' perceptions of productivity when teleworking as opposed to non-teleworking, as well as problems or aspects that hindered or impacted on productivity and wellbeing when teleworking as opposed to non-teleworking.¹

The second phase of data collection involved three teams from EducolT, TestCo and NetworkCo and required participants from each team to log their daily telework experiences in terms of productivity and wellbeing over four working days (two telework days and two non-telework days) during one week of each team's choice.

The aim of the data collection was to get an idea of actual hours worked, feelings and attitudes towards work, tasks planned and actually completed on both telework days and non-telework days. For this purpose a small website was designed to collect some demographic data relating to costs, expenses, and travel times for each day as well as data concerning productivity and wellbeing. Data specific to productivity and wellbeing required participants to log data prior to starting their workday and at the end of each workday. At the start of a day, data gathered included the actual start time of their workday and tasks planned, while end-of-the-day data included the number of tasks completed, approximate time taken for each task, an indication of the number and type of interruptions each day, and individuals' general feelings of their day's productivity and wellbeing. Figure 1 presents one of the day experience data log screens from the website.

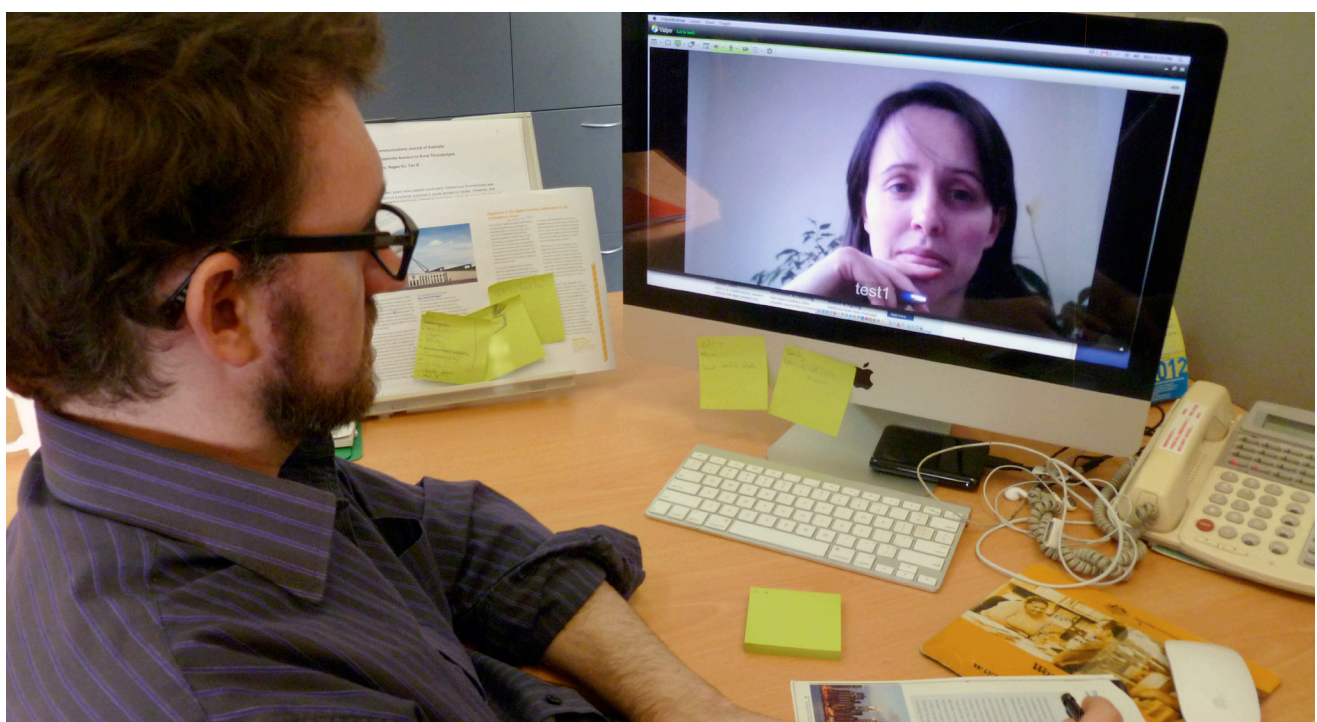


Figure 1: Example screen from the day experience data log website

¹ Interviews took approximately 45 to 60 minutes. We used a combination of face-to-face and telephone/video-call interviews. Face-to-face interviews were conducted with participants from EduCo, EducolT, GovernCo and TestCo at their respective office locations, while telephone or Internet-based voice call interviews were conducted using commercial video conferencing platforms with NetworkCo and InfraStructCo participants. All interviews were transcribed verbatim.

2.3 Data analysis

Interviews were transcribed and a thematic analysis of both the interview transcripts and logged data was undertaken. The analysis focused on identifying elements that impacted on telework productivity from a management and worker perspective as well as individuals' perceptions of wellbeing. Day experience data contained in the data logs was analysed by comparing collected data from individuals and teams and linking this quantitative data with the qualitative interview data.



3. Telework enabling productivity and wellbeing

3.1 The importance of IT as an enabler for telework productivity

Across the research cases investigated in this study, it was evident that adequate technology to enable and support telework is required to improve productivity. As such, basic collaboration and networking tools, mobile devices and a supportive network infrastructure need to be in place in order to achieve productive outcomes in terms of telework. Networking tools comprise networking infrastructure, applications and devices that allow communication and collaborative access to content, workspaces and individual desktops.

Based on the research cases investigated, it was clear that organisations can be grouped according to three different levels of IT support for telework that impacted on productivity i.e. high-level IT support, medium-level IT support and low-level IT support as outlined in Table 2.

Type of IT support for Telework per case organisation	Case organisation	Types of tools and applications required in 'away from work' locations
High-level IT support Multiple tools and devices are used and in most cases provided by the organisation to fully support telework	NetworkCo and InfrastrucCo	Audio, video-conferencing and online presence tools (e.g. WebX and Skype), instant messaging and chat tools (e.g. Jabber, MSN), laptops, mobile and handheld devices (iPhones, iPads), high-speed internet connection to allow for a seamless office 'working away' experience. Electronic calendar tools (iCal), multiple screens for visual display of work, virtual desktops, collection of Web-based tools and cloud services that allow working away from the office (e.g. web-based email, Microsoft Exchange and Sharepoint online)
Medium-level IT support Organisational support limited to 'Bring Your Own Devices' (BYOD) with some tools provided by the organisation	TestCo and EducoIT	Medium level networking and collaboration tools that allow access to files and servers (e.g. audio/video tools) mobiles phones, limited collaboration between team members and limited use of handheld devices. Dial-up conferencing tools, medium speed internet connection, and some Web-based tools.
Low-level IT support Limited to no organisational support to provide tools and devices for telework	GovernCo and EduCo	Limited networking and collaboration tools and devices. Low speed internet connection to access files on servers, web-based email, mobile phones and landlines

Table 2: Types of IT support and tools that enable and support productive telework

A participant from one of the high-level IT support case organisations indicated that he was fortunate that his organisation provided a range of tools for telework, and that access to these tools contributed to his productivity:

With [NetworkCo] being a technology company they give you everything, all the tools and technology you need to do your job well.

Project Manager, NetworkCo

Another manager from NetworkCo confirmed that this organisation was at the high-end of the IT support spectrum for telework and that his home office enabled him to continue his work seamlessly from home:

We're at the higher end of the scale. We are provided with what's called a virtual office environment. I have a router in my home, so my home office effectively becomes an extension of [NetworkCo's] environment. So there is no difference in the environment between office and home, so technology is the enabler.

Regional Sales Manager, NetworkCo

On the other hand, participants from one of the medium-level IT support organisations indicated that technologies allowing virtual collaboration using video (e.g. Skype) could enhance their telework experience and improve productivity. This organisation provided email and remote server access, while individuals had to use their personal mobile phones for telework. One participant indicated how the use of email impacted on her productivity:

I think that better technology could improve it [the telework experience]. I know there are some companies that use Skype or other technologies, and that might be useful. The only thing you find sometimes you might be emailing someone with a question and you're waiting on a response and it's taking a bit of time.

Tester, TestCo

Another participant from the same organisation confirmed the need to have video conferencing tools to allow for meetings with multiple members in the testing team:

With the current IT you can do the job OK. But we need something more, definitely Skype or video conferencing. Video conferencing would be fantastic. Now we are using only dial-up so we can call only one person.

Tester, TestCo

A participant from one of the low-level IT support organisations was conscious that her organisation has not yet advanced to a level of IT sophistication to fully support telework. She expressed her concern with respect to the required support from the organisation's IT department and the need for similar technologies to enable communication for telework:

What I haven't got is visual access. Videoconferencing is expensive still, unless you use Skype, and [the organisation] hasn't advanced to that yet, even though the technology is there. Whatever goes on my laptop has to be put on by the IT department, it has to be consistent and they have to be able to support it. And you have to have the equipment for videoconferencing. And then for me all the other people we engage with would have to have the same technology in order for us to communicate with them that way.

Project Manager, GovernCo

Since collaborative and communication technologies are evolving and getting more sophisticated, many respondents felt that technology will positively impact on telework and improve individual productivity to work from anywhere as one participant indicated:

There are a lot of tools that are coming out or are already out where the end user experience is quite seamless. So once it's implemented you don't need to be a technologist to use it effectively. So when the rest of the technology catches up, and we get better broadband speeds and phone coverage, and as everything comes together, there's no reason why people couldn't do telework rather than sitting in Sydney traffic for up to four hours a day.

Project Manager, NetworkCo

Summary: IT Support for telework

- IT is an important enabler of productive telework.
- Medium to high-level IT support, particularly communication and collaborative IT tools, are required to increase individual productivity.
- Workers can be more productive when teleworking, provided they have appropriate IT tools allowing them to continue their work seamlessly from their 'anywhere work' offices.

Therefore, in order for organisations to support a productive teleworking workforce, they need to invest in IT equipment, platforms and applications to support 'anywhere work' offices.

3.2 Telework and productivity: management guidelines

Productivity did not appear to be a major concern for organisations that have developed a culture of telework and were at the high-level end of IT support for telework (NetworkCo and IntraStructCo). Two participants from these organisations commented as follows on productivity:

Personally I think I am a lot more productive when I telework, I can remove myself from distractions, I can focus on my work, I can disappear from people quite easily. When I'm in the office, yes I can turn down my phone, put 'do not disturb' on the door but people can still see I'm there, they can still knock on my door and interrupt me.

Strategic Solutions Director, IntraStructCo

and

What I've found with telework is that it gives you space in a different environment, whether it be at home, whether it be the coffee shop, or just in the office wherever you can just find some space to make sure you have a plan of attack for the day, week, month, year and make sure you're tracking to it.

Project Manager, NetworkCo

Even participants from the medium to low-level IT support organisations felt that they were more productive when working from home:

I'm also more productive when I work from home. In my job I tend to get interrupted all the time - sometimes it's important, sometimes not. But when I am here, people come to me all the time. It's a very rare day when I set myself five things to get done that they will get done.

Senior Systems Administrator, EducoIT

and

I am much better working from home [productive], I couldn't do what I do at work. I work in an open plan office and I work much better in a secluded environment. I can concentrate deeply here [from home when teleworking], I can't do that at work.

Project Manager, GovernCo

A number of participants emphasised the importance of trust in a telework relationship between a manager and worker. It was clear from responses that trust is built over time as a result of one's behaviour, as two of the participants indicated:

I found it difficult to find out what they [teleworkers] were doing – and it all came down to trust, could we trust them to be productive and do the work without them being in the office. And it came down to a point of getting to know the team and we soon got to know who could be trusted and who couldn't and the ones we suspected weren't doing the right thing, we monitored them closely.

Test Manager, TestCo

and

It's funny. When you start the job you are given the trust, and it's yours to lose if you don't do the right thing. And then you are judged by results, so if I deliver the results then I have the trust of my managers

Project Manager, NetworkCo

Some participants indicated that they considered themselves as productive teleworkers since they are driven, can work individually and have the ability to self-organise. One participant commented that these aspects were important for teleworkers:

What I am looking for is autonomous independent people who can work on their own.

National Solutions Architect, InfraStructCo

and

I'm very quick at what I do, but I'm also a bit of a workaholic. I get in there [my home office] and get stuff done, and nothing is stopping me from finishing off tasks later in the day.

Project Manager, NetworkCo

Comments from managers of teleworkers also indicated that from a productivity perspective, managers needed to use a different management approach in telework environments . This approach, based on trust, required managers to have regular virtual meetings with individuals and teams that focused on task-based deliverables, as one of the managers indicated:

Again a thing is the maturity level and the trust that I have for my team, I have no doubt that they are doing the right thing by it. In fact I feel that I get a lot more productivity from my team with telework. I let them [my teams] set their strategy. They share that with me, and what they're planning to do over the next few weeks.

Senior Manager, NetworkCo

The same participant indicated that he had to have regular team and one-on-one meetings to track progress:

Sometimes in the team meetings, the one-on-ones, I can delve into it [the work] a bit deeper. The team meetings are most often used to report on how we're tracking, give a high level view of where we need to be going.

Senior Manager, NetworkCo

Summary: Management Guidelines

- Telework requires a different *approach* and *style* in terms of managing teleworkers. Managers need to set clear tasks and articulate outcomes to be achieved over shorter periods of time. This requires frequent online or face-to-face meetings to ensure that tasks are actually completed in time and expected productivity outcomes from individuals and teams as a whole are achieved.
- Trust is important to foster a productive working environment (from both the manager and employee perspective). As a result, managers of teleworkers should not be concerned about where work is done, as long as workers are productive and clearly demonstrate that tasks are completed successfully and on time.
- Frequent meetings (at least weekly and some even daily) are required with individuals and teams to ensure that workers are productive and meet task deadlines.
- Managers need to carefully select employees for telework since productive teleworkers tend to be driven, self-motivated and independent workers who are well-organised and can deliver results as expected.
- Not all roles and tasks are conducive to telework. For instance, some roles requiring a high level of customer contact may not be suitable for telework. On the other hand, cognitive tasks requiring high levels of concentration are usually best done away from work interruptions, and managers need to exercise sound judgment in determining the type of tasks that are suitable for telework.

3.3 Telework and productivity: worker guidelines

Individual teleworkers were confident that they were more productive when teleworking as opposed to non-teleworking. Two participants from case organisations that provided high-level IT support for telework (NetworkCo and InfrastrucCo) commented as follows:

Without question I am more productive when I telework. There is no need to commute to the office every day, so on telework days I actually get more work done.

Project Manager, NetworkCo

and

I think my productivity [when teleworking] is heaps better than it is at work. There's less distraction, you can focus more, I just feel like it gets me ready for the next week, and I believe it's much better than had I been here in the office.

Education Officer, GovernCo

The second data collection phase required individuals in teams of teleworkers to participate by logging their day experience data. Getting full and large enough teams together proved to be difficult, but ultimately, three teams (NetworkCo, TestCo and EducoIT) participated in this data collection phase. Evidence from the day experience data logs of these teams, indicated that participants felt that they were more productive on telework days as opposed to non-telework days. An analysis of the data logs indicate that participants managed to complete more planned tasks on telework days as opposed to non-telework days. Data logs for one team (TestCo) indicated that frequent work interruptions impacted on productivity across the team on non-teleworking days. The duration of individual work-related interruptions on non-telework days lasted between 30 minutes and 3 hours each across the teams. Minimal work-related interruptions of a shorter duration (and for some workers no interruptions) were logged by team members on telework days.

Participants' comments logged in terms of productivity on telework days across the three participating organisations were positive and included comments such as the following:

Far more productive than prior day in the office and It is great to work from home at times to get on top of some outstanding issues - this enables one to be ready for additional workloads and requirements from the business.

participants from NetworkCo

Very productive today as I completed my tasks with little interruptions or software issues. Also working from home meant less interruptions from colleagues and Was able to get though a large amount of processing with no disruptions.

participants from TestCo

I felt very productive today, as work was easy to get started - when [I am] at home less social catch up was required. All tasks were completed.

participant from TestCo

and

Very productive as [there is] less social time than when onsite at work. Also easier to get going and working when at home. Also tend to take less breaks.

participant from EducoIT

Self-reported productivity for the largest team, TestCo, was verified with the team manager. Overall, participants from this team rated their own productivity higher on telework days as opposed to non-telework days. Following the day experience data logs, a short telephone meeting was conducted with the team manager. She responded favourably about the team's overall performance during the week of day experience data logging. She commented that her team's productivity was high and indicated that she was 'very pleased' with her team's performance during the day experience data log week, particularly on telework days. She explained that a few planned tasks were not completed by the team but explained that this was due to external circumstances beyond the team's control and not as a result of individual productivity.

Productivity comments from participants in the case organisations on non-telework days included:

Follow-up required the following day due to lack of time to complete all work and Face to face meetings were productive but general office time put aside for follow ups had constant interruptions.

NetworkCo

and

Not as productive as possible. Delays by others impacted [on] work and I am satisfied that I achieved quite a few things today even though I didn't complete all the tasks on my list.

TestCo

and

Interruptions slowed down my productivity and Less people at work today, so less interruptions which help on getting task done.

EducoIT

Additionally, across all three teams, day experience data logs indicate that participants tend to work longer days when they telework. Working hours on telework days were on average 1.5 to 3 hours longer than non-telework days. Starting times on telework days also varied and a number of participants made an earlier start on telework days (starting as early as 6:30am) as opposed to non-telework days.

Summary: Worker Guidelines

An analysis of the interview data and deeper analysis of the day experience data logs indicate that there are key issues that should be taken into consideration by organisations considering the introduction of telework:

- Teleworkers are more productive if they have the ability to work away from the office on demanding tasks that are difficult, complex and non-routine (e.g. writing of policy documents, planning and involved in problem solving processes).
- Even though teleworkers felt that they are more productive when working away from the office, they may end up working longer work hours than required when working away from the office.
- Often teleworkers will make productive use of the time saved when not having to commute to the office.
- Teleworkers felt that while a hybrid arrangement to telework contributed to productivity, they prefer to keep telework days to an average of two days per week. They felt the need for social interaction and face-to-face conversations with colleagues to mitigate a feeling of isolation that often occurred when teleworking.
- Teleworkers need adequate training in the use of IT tools to ensure that they are productive in delivering task outcomes when working away from the office.
- A suitable 'away from work' environment with adequate IT support allowing teleworkers to continue their office work seamlessly allows for more productive teleworkers.



3.4 Telework and wellbeing

In the interviews, participants agreed unanimously that there is a positive relationship between telework and wellbeing. The flexibility and 'head-space' enabled by telework made workers feel more productive and contributed to individual wellbeing as three participants indicated:

I think generally it [telework] has a more positive impact on my wellbeing. I get flexibility from telework, I can see more of my kids, take my daughter to school and also pick her up – these are things that regular office workers wouldn't be able to do.

Project Manager, NetworkCo

and

I think I probably feel more refreshed when I'm at home, I almost feel like it's a weekend sometimes because I enjoy my work. It's not something like I feel I have to do. Normally by Thursday if I am not teleworking I would feel my energy ebbing away, then thank God it's Friday, I would be tired by the end of the week and you need the weekend to recover. But having a Wednesday as a telework day, I have much more energy remaining for the end of the week. Maybe that's because I get a chance to do stocktaking and clear the decks, clear my emails, when I telework mid-week.

Director, EduCo

And

I guess the positives are less stress, no commuting on telework days, feeling comfortable when I'm working. I experience less anxiety on telework days, and have better work-life balance.

Project Manager, NetworkCo

Day experience data logs specific to wellbeing required participants to log their feelings in terms of morale, control over their work, job satisfaction, intensity of their work and pressure on telework days and non-telework days using a rating scale of 1 to 7 (with 1=low, 4=medium and 7=high). Additionally participants were required to document their overall feelings of the day's work in terms of wellbeing and productivity. All team members rated their wellbeing as 'high' (between 5 and 7) on the rating scale for telework days. Wellbeing data log responses on telework days for each of the teams (NetworkCo, TestCo and EducoIT) were as follows:

Great and Good balance between home/work being able to assist with the family and still get a number of tasks completed.

NetworkCo

and

Excellent wellbeing and More than happy and stress free

TestCo

and

Greater level of satisfaction and I felt great - I was more relaxed not having to get up so early to get to work. Overall a positive day

EducoIT

Some day experience data logged by participants on non-telework days was less enthusiastic as indicated by ratings of 'medium' and 'medium high' (4 and 5) on non-telework days. Remarks logged by two participants were as follows:

I feel that I have achieved an average amount of work.....so I will be behind again [tomorrow] – [feeling] a little pressured and Productivity average to high... however stress levels increased due to number of interruptions

NetworkCo

and

Pretty happy and Good

TestCo

Summary: Telework and wellbeing

Overall, across the cases it was clear that in terms of wellbeing:

- The ability to work away from the office enabled a better work-life balance on telework days, which engendered a positive attitude towards work
- Working away from the office allowed for alternate activities (e.g. an hour of working instead of driving in heavy traffic), which energized workers, resulting in less stress and allowing for more productive work
- Workers could better balance family and work life, and the ability to have a presence at home contributed to a more happy family life.

3.5 The future of telework

In general, participants were positive about the future of telework from a productivity and wellbeing perspective and were of the opinion that managers need to understand the use and application of IT to better manage teleworkers. It was clear that the notion of office work is changing with work becoming continuously more fluid and mobile in terms of time and space. One of the participants commented as follows:

I believe it's the way of the future, but managers need to understand and use technology in order to manage telework effectively. Work is now highly mobile, changing all the time, and more and more workers want flexibility in their jobs. Management needs to recognize this. But I think that telework success depends on workers being self-motivated, self-disciplined and self-driven.

Project Manager, NetworkCo

Another participant confirmed these sentiments and added that telework will grow based on its uptake as a mode of working. Even though work is changing, it is also important that managers understand the context of telework and prepare themselves for managing a new generation of workers.

4. Implications and further research

Our findings suggest that management concerns in terms of individual and team productivity are valid, but can be ameliorated by addressing a few basic principles and concerns. One of the most important aspects involves management perceptions and attitudes to telework from a productivity perspective. Management should ensure that:

- Adequate IT support and training are provided to support teleworkers;
- Clear arrangements and guidelines are in place on how telework is structured and how outcomes are measured and reported;
- There are regular assessments of teleworking arrangements, contracts and policies to ensure that the best outcomes are met from both a management and teleworker perspective; and
- Organisations attract and invest in self-driven, talented and responsible workers to ensure productive work outcomes.

Our study suggests that there are opportunities for further research. One such opportunity is to further explore the relationship between productivity and wellbeing that include: identifying types of work arrangements, job design, task division, award and appraisal schemes required to contribute to productivity and wellbeing. Additionally the notion of productivity in terms of job performance from a Human Resource Management perspective requires further research.

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