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# GROUNDING TELEWORK STRATEGY IN A UNIVERSITY SETTING: REPORT ON A FIRST-STEP ANALYSIS

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## Abstract

*Universities can be considered to typify knowledge intensive organizations and hence are an important site to study the phenomenon of telework amongst knowledge workers. This paper reports on the results of findings arising from a first-step analysis – 20 semi-structured interviews – undertaken as Stage 1 of the formal adoption of a telework strategy at a major Australian university (UNIOZ). No attempt is made to precisely quantify the findings but thematic analysis is used to analyse telework in the context of current University work practices, indicate satisfaction or otherwise with telework, and point to a number of key factors relating to the adequacy of technological support for telework.. Important future trends for telework at the University, with the potential to impact on planning of technological support, are also highlighted. Key findings include:*

- *Telework is a long-established informal practice at the University but continues to evolve with the additional emphasis on flexible work from multiple locations (various sites on campus, other campuses, from international sites, and from home).*
- *Most respondents believe their telework will continue and/or expand.*
- *Supplementary telework, at nights and at weekends, is also a rapid growth area for the University's academics and, potentially, also management and support staff.*
- *Increased productivity and flexibility are the major perceived benefits of telework.*
- *Diffused boundaries between work and home, increased potential for stress as well as overwork, are parallel disadvantages.*
- *Negative management attitudes and a lack of policy (or at least clear guidelines) are seen as the main barriers to telework.*
- *Implications of the findings for the management of university staff are also discussed.*

## Introduction

As overviewed elsewhere (Falaleeva, 2001 citing Belanger, Collins, and Cheney, 2001) the majority of the literature on remote work has focused on technological issues rather than seeing telework (and other forms of distributed work) as complex human, organisational, and technical systems. Other research has similarly validated, empirically, that these organizational, technological, work and personal factors all contribute to outcomes that have been identified as the three 'proxy' indicators of sustainable work: teleworker productivity, teleworker job satisfaction, and teleworker lifestyle satisfaction (see Meyers, 1999; Meyers and Hearn, 2001). To be sustainable, telework must therefore allow employees opportunities to exercise control of personal and work factors

unique to telework (and to other distributed work) environments (Meyers, 1999). In such a 'control' environment, and drawing on principles of social cognitive theory (Bandura, 1986, 1997; Wood and Bandura, 1989) behavioral, cognitive and personal and environmental factors interact to produce telework outcomes, rather than do merely technological factors.

Accordingly, a key element in the present study has been to elicit staff perceptions on the value of telework as an alternative work option at the University, present levels of satisfaction and dissatisfaction with telework, and staff projections on their likely future involvement with telework.

### ***Telework: A Definition***

The extent to which the competing definitions of 'telework' and 'telecommuting' have dominated much of the remote work literature is well documented in the literature (as extensively reviewed by Meyers and Hearn, 2001). Broadly speaking, 'telework' is used as a generic descriptor to refer to all forms of remote work (a 'work anyplace', 'work anywhere', 'work anytime' construct) usually linked to full-time, part-time or contract employees who, with their managers' consent, spend increasing amounts of their work time outside the office (or, in the case of the present paper, outside the university). Accordingly, in this paper, we considered 'teleworkers' to be full-time or part-time University employees who work at home or at some other remote location, and use networked information and communication systems (computers, phones, intranets, and the Internet) in lieu of travel to their campus office.

### ***Telework in Universities***

The higher education sector world-wide has recently undergone a number of major reviews and reforms (as overviewed in Meyers and Callan, 2000). Both technological changes and new patterns of delivery of educational programmes have been significant as universities are urged to become more entrepreneurial, identify new markets, and experiment with new methods of teaching. At the University referred to in this paper, staff at all levels are also constantly being pressed to do more with existing resources. Accordingly, a number of 'drivers' for expansion of telework at the University can be identified extrapolating, from other trends previously overviewed extensively from the telework literature (Meyers and Callan, 2000):

- Person-centred needs for flexibility and choice in meeting work and/or personal/family demands.
- Growing pressures on individual university staff to do more with less
- Quality of life concerns
- New media and information technologies allowing knowledge transmission not limited by time and space as well as a potential bridging of 'work' and 'personal' domains
- A continued expectation about the on-going improvement/refinement of these technologies as enablers of telework
- Changing nature of academic work now extending beyond the confines of the office, the lecture theatre, and the classroom (flexible learning, online education, off-campus teaching including international teaching in Asia, among other factors)

Finally, academics and the way they work provide particularly fertile ground for the growth of telework. Borrowing from a well-established framework, this is because academics:

- Demonstrate sufficient autonomy in their work arrangements to combine flexiplace: (i.e., work either at home or some other remote location as well as on campus);
- Have relative control of the time aspects of their work;
- Rely increasingly, in varying degrees, on electronic communications to achieve work outcomes.

Moreover, Australian universities such as Griffith University and Edith Cowan University have already formalized broad policies for either flexible work arrangements or telework ([www.gu.edu.au/ins/equity/content\\_flexible\\_report.html](http://www.gu.edu.au/ins/equity/content_flexible_report.html); see also [www.ecu.edu.au/secretariat/policy/it/it031.html](http://www.ecu.edu.au/secretariat/policy/it/it031.html)). Similarly, in the United States, such major universities as Texas A & M University ([www.educause.edu/ir/library/html/cnc9828.html](http://www.educause.edu/ir/library/html/cnc9828.html)) have also worked towards formalizing telework in terms of new academic and IT partnerships.

As useful as such studies are to background telework issues, in practically every case they represent broad policy directions rather than provide information to what extent policy has been grounded in either qualitative or quantitative research.

In addition, a number of potential barriers to the further diffusion of telework at the University are acknowledged. Broadly speaking these perceived barriers can be grouped into two major categories as earlier identified (Mokhtarian and Salomon, 1994):

- external variables, *i.e.*, extent of employee awareness about and expectations towards telework, degree of employer-related awareness, the employer concerns regarding workplace health and safety aspects, suitability of the alternative work environment, levels of technological support, job unsuitability, and management resistance/disapproval, as well as
- internal (psychosocial) variables such as the employee's desire for social or professional interaction, lack of self-discipline, risk aversion (*i.e.*, employee concerns regarding management attitudes to his/her telework), and household distractions

Despite the absence of formal survey data for University employees, it is not inconceivable that a number of 'external' as well as 'internal' constraints might be binding and affect University employees' motivations to telework. Because telework at the University has been allowed to develop ad hoc and organically, the later emergence of a formal telework policy also has the potential to extend or constrain existing telework arrangements.

### ***Objectives and Significance of the Present Study***

Although a considerable amount of literature is emerging on growth patterns in education as potential seeding grounds for telework (overviewed in Meyers and Callan, 2000), very little data exists on ways that universities have formally adopted telework. Taking the above limitations into account, it was therefore decided to develop a small but effective qualitative study to identify both issues and their contexts as a prelude to later, more empirically-grounded, study. In short, the initial study takes on board principles embedded in much qualitative research increasingly being conducted in IT domains (see Trauth, 2001). Therefore, it was decided to proceed inductively rather than begin the research with firm hypotheses-driven principles.

Moreover, because of rapid advances in communication systems, effective strategic planning is essential for today's IT managers (Frenzel, 1999, p.26). Moreover, there is considerable concern within in the University that telework has been allowed to grow ad hoc and that this growth has ramifications not just for technological but also for human resource and workplace health and safety issues. Therefore, the initial study – designed as a foundation for later studies within the University – is significant for three reasons. Firstly, it gives context for telework developments at the University. Secondly, it provides preliminary data on staff involvement with telework at the University. Thirdly, it suggests where more information can be gathered to assist planning for technology support. Finally, the report underscores where additional empirical studies might be grounded to assess likely future expansion of telework at the University.

## **Methodology**

To meet the above research aims, 20 semi-structured one-hour interviews, followed by thematic analysis, were adopted as the basic methodology for the study (a full list of interview questions is available from the authors). The application of this method, as well as ways to construct relatively open versus closed questions, are well-covered in standard texts dealing with qualitative research methodology ( for example, Flick, 1998; Robson, 1993). Consistent with the inductive approach of the study, the analytical procedure adopted was essentially exploratory (Strauss, 1987). Maximum variation sampling was adopted to examine a reasonable range of perspectives, given time and other constraints.

Firstly, consistent with the inductive approach, interviews were seen as a useful method to explore a number of qualitative dimensions, both technological and personal, regarding UNIOZ employees' experiences with telework – in short, to provide 'first facts' on telework at the University. Secondly, the interviews would not only inform dimensions of existing telework practices; they would also highlight aspects that, at the client's discretion, might be explored further via focus groups or, potentially, allow further investigation via a questionnaire on the Intranet allowing for wider, statistical sampling.

Each one-hour interview was recorded on audio-cassette, transcribed, and content- analysed. Full transcripts are available from the author. Maximum variation sampling was used to obtain the sample. Twelve academics were interview, 5 administrative staff and three policy staff. There were three (3) female interviewees: one academic, one in policy, and one in senior administration. Academics comprised nine lecturers as well as one Dean and two heads of School. Interviewees involved in policy included the

Pro-Vice-Chancellor of Information and Academic Services; the Senior Policy Officer (Equity Section); and the University's Principal Policy Officer. Interviewees in Management/Administration comprised: the Associate Director Campus Services, a School Senior Administration Officer, a Finance Officer, the Science Flexible Delivery Coordinator, and Director a UNIOZ Research Centre.

## Findings

The majority of interviewees had been teleworking unofficially (informally) for approximately 4 -7 years at the University. Interviewees had adopted telework at the University as a natural extension of their normal work duties.

**Table 1: Frequency of Telework (weekly)\***

Part of day	1 day	2 day	3-5 days	Supplementary +normal hours	Supplementary only	Unclear
1	6	4	2	12	4	4

\*Note: Some interviewees gave two responses to this question (i.e., they did 'supplementary' as well as normal telework).

As noted in the above table, the major preference is to work at home one or two days per week. However, over half of interviewees (N=12) reported that they also used telework in a supplementary way: that is, they would go online during evenings or part of their weekends *in addition* to those times they teleworked at home during normal hours in lieu of travel to the campus.

### *Staff Experiences with Telework: Perceived Advantages and Disadvantages*

Attention was paid to contemporary factors: namely, perceived current advantages, as well as disadvantages, that staff might attribute to telework.

Most interviewees favour telework for work-related reasons (higher productivity, improved planning time allowing for concentration). One interviewee, a senior policy officer, gave this representative endorsement for telework as a means to her higher productivity:

*What do I like most about telework? Basically, the greater ability I have to control my work environment with fewer distractions and interruptions than in my regular office. These factors contribute to my higher productivity*

In terms of quality time for planning, one Head of School commented:

*I cannot go into my university office and expect I won't be disturbed. Whereas at home, my time is my own, and I can get into the sort of work which requires uninterrupted, deep thinking and concentration.*

Interviewees also value the 'overall flexibility' that telework offered, indicating some overlap between work, lifestyle, and quality of life aspects. As noted by one Senior Administration Officer, *The flexibility in your work environment makes you more productive*. However, for at least two other interviewees 'flexibility' also allowed juggling of work and personal demands.

In terms of 'meeting the needs of a valued employee' one interviewee (senior policy officer) reported that he would not have accepted his position at the University had not his superior formally granted him the right to telework two days per week. Similarly, telework appears to be available on an 'as needed' informal basis to selected library staff.

Overall, these perceived advantages of University telework are somewhat consistent with those empirically validated in an earlier study on corporate telework (Meyers, 1999).

Interviewee's greatest concerns are the potential for 'boundary conflict' (i.e., work overlapping or encroaching on personal or family space), the potential for overwork leading to greater stress, as well as reduced communication efficacy. These aspects have

been similarly noted in other studies (as overviewed in Meyers, 1999; Meyers and Callan, 2000). Reported technical difficulties, addressed later in this paper, were also noted.

### ***Drivers and Barriers of Telework at the University***

Interviewees were asked to indicate (a) what drivers they believed would lead to on-going diffusion of telework; and (b) what they perceived as likely barriers to telework adoption.

The above findings indicate that staff perceive future telework diffusion will be driven by both 'external' (i.e., University driven) and 'internal' (i.e., personal) factors as empirically validated by Mokhtarian and Salomon (1994): The 'external' factors relate to the University's need for cost savings in building allocations, parking, and likely increases in multi-campus teaching.

Interestingly, cost-savings created by reduced requirements for space was rated most highly by these interviewees. However, 'internal' or person-centred needs (coping with individual work loads, staff needs for flexible work options, and coping with cross-campus teaching) were also prominent as these interviewees anticipate their telework 'futures'.

About half of the respondents perceive that University management attitudes are likely to be barriers to future telework. Issues (as perceived by interviewees) that can be linked to this conclusion are that: management will need to 'manage' by outcomes not by 'visibility', extend 'trust' to the teleworker, have a better understanding of the role of the Information Technology Services Unit and technology generally in the University, and overcome other management problems. More widely, these aspects have been repeated in other telework studies, especially in the introductory stages of telework.

Perceptions about management abilities 'to cope' with telework are possibly linked to the lack of a telework policy; in any event, interviewees see this policy lack as a major inhibitor, citing workplace health and safety, lack of overall guidelines, and other aspects.

However, technical equipment and equipment support aspects also surfaced; these related to such factors as dial-in capabilities (stable but slow, for 2 interviewees), incompatibility of software between University-based equipment and the home computer system (2 interviewees), and expected poor equipment support overall (1 interviewee). Another teleworker commented:

*It's all very ad hoc. You only get from the University what you can wring out of it!*

Similarly, another teleworker reported:

*I have had to buy myself everything I needed to telework: the computer, the workstation, and other things. I guess many others have done that, the University hasn't done anything.*

Also related were aspects of costs that related to the telework (N=3 teleworkers). One interviewee commented:

*The University does all right from telework. You pay light, power, and phone yourself. It becomes a tradeoff, you want to telework, you pay the bills yourself – it's a compromise for the flexibility.*

### ***Telework Policy Issues***

In some universities that have adopted telework (see earlier section on Telework in Universities), it has been found expedient to adopt a uniform telework policy. Broadly speaking, such a policy sets guidelines for both the University administration and Information Technology Services Unit employees on what is involved in the telework arrangements, and addresses staff concerns on teleworker entitlements. The policy also allows a focus on workplace health and safety management issues. It may also avoid potential equity issues: namely, as perceived by Administrative and other support staff, that telework is "just for the academics".

Staff perceptions on policy aspects were canvassed. Preliminary assessments of whether the lack of a policy might lead to more or less telework are included. For example, the majority of interviewees perceive a need for greater clarity in their telework roles, advocating a telework policy (or, at least, guidelines). However, two teleworkers (the Head, School of Management, and one lecturer) strongly dissented, arguing that telework could easily become over-regulated because of management uncertainties on

productivity measurement and because of the University's reluctance to embrace workplace health and safety issues. It was argued that if intending adopters perceived too many obstacles the end result might well be less, rather than more, telework.

Because telework at the University has been allowed to develop ad hoc and organically, no clear telework policy or guidelines exist. This position has both strengths and weaknesses. A major strength is that many University staff – particularly academics – have been able to extend their already flexible work arrangements via telework and achieve personal, work, and lifestyle benefits. A major weakness is that not all University staff who desire to telework may be assured of equity of access to technical and other support – not least the support of their managers or Heads of Schools. Whether or not the University should formalize telework extends beyond the scope of the present paper. However, it is equally clear that in the absence of a telework policy, planning by the Information Technology Services and other agencies will continue to operate somewhat in a vacuum.

### ***Technological Support Issues***

Online communication and technological support are the 'enablers' of telework as empirically validated elsewhere (Gupta, Karimi, and Somers, 1995; Tung and Turban, 1996). As quantified in a recent study (Gupta Karimi, and Somers., 1995), the importance of work support, the attendant importance of communications technologies, satisfaction with technical support levels, and overall satisfaction with communication technologies were all identified as elements critical in the extent to which teleworkers believed they could achieve satisfactory control of work outcomes. The present study does not attempt to explore all such factors; rather, to elicit general levels of satisfaction that UNIOZ staff report with technical support aspects they deem important to them.

For virtually all interviewees in the present study, findings relate to the use of e-mail; however, more clarity might have been sought from other interviewees about the extent to which online communication facilitates control of work and contributes to improved communication in telework contexts.

Overall, respondents were satisfied with levels of technical support. The biggest cause for dissatisfaction (for almost a third of respondents) relates to either availability or provision of laptops. Interestingly, at least one School at the University– in the interests of worker flexibility and increased mobility – has perceived this need and given staff a choice of either a laptop or a desktop machine.

In terms of quality of help, about a third of interviewees expressed praise or said they were satisfied, but others were more critical as can be directly observed from the transcripts. Perhaps the strongest criticism came from this non-academic interviewee:

*Not up to scratch in both process and outcomes! Would have to improve if telework were to increase.*

Another somewhat dissatisfied interviewee commented:

*They're good at resolving University -based problem; they're not so good in resolving home-based ones.*

Clearly, such aspects are worthy of follow-up and could be pursued as part of the next stage of the enquiry. Moreover, interviews can by nature be subjective and there is an obvious need to more energetically work through some of these categories with an extended number of teleworkers via further samples (as exemplified in empirical work by (Gupta, Karimi, and Somers, 1995; Tung and Turban, 1996). Other later requirements relate to the need to determine whether possibly other categories relating to technical support aspects need to be identified, using a more precise measuring instrument (i.e. a questionnaire) by which user satisfactions and dissatisfactions can be more explicitly scaled and quantified. In another study, for example, quite specific and relevant aspects of user satisfaction with technological support for telework have been well-identified using both focus groups and questionnaires for a large sample (N=375 teleworkers).

### ***Telework: Security Aspects***

An interesting offshoot stemming from the present study is that interviewees commented very sparingly on data security aspects. By contrast, in the private sector as well as in public sectors, security aspects rank highly amongst managers considering the adoption of telework. An exception, in the present interviews, was one lecturer (a data communications expert) who was highly critical that the University has not taken security aspects for off-campus users more seriously – or, from time to time, not reminded University staff of some of the latent hazards.

For example, home offices are relatively open to security abuses: casual use of un-attended computer equipment by children or friends, or by other un-authorized persons, leading to deliberate or casual unauthorized access to University systems. Potential theft of equipment, leading to further unauthorized access to the University system, may be another issue. Spread of computer viruses is an attendant risk.

## **Conclusions**

Findings in this initial report indicate that telework has the potential to become an important adjunct to existing work practices at UNIOZ. Telework – as far as these interviewees are concerned – enhances employee autonomy, control, flexibility, and convenience. Such attributes well documented in the telework literature (e.g., Bernardino, 1996; Mokhtarian & Salomon, 1994). The preliminary interviews also suggest that telework improves overall flexibility in work arrangements that in turn appear to help employees ‘stay on top’ of their work. The need for greater flexibility in one’s work or personal arrangements and the need for improved control of work outcomes have been found to be the two primary employee motivations to telework, including correlations with reported higher levels of job satisfaction (Bernardino, 1996; Kraut, 1989; Olson, 1983, 1987, 1989; Reymers, 1996). Accordingly, in the next study, these aspects have been identified as worth pursuing in further quantitative assessments of telework patterns at UNIOZ. Actual measures of productivity as well as for increased work and lifestyle satisfaction have been, however, beyond the scope of the present study. However, it is conceivable that if such gains in productivity as well as job and lifestyle satisfaction could be demonstrated by way of the follow-up quantitative study, more University employees would take up telework – with attendant planning implications for the university’s Information Technology’s Services Unit.

In terms of such technological planning, results of the above interviews do indicate that employees at UNIOZ appear to be reasonably satisfied, overall, with levels of technical support, but that this finding needs to be validated along with other underlying issues needing further exploration. This is because technical support for telework has been found to significantly impact on the work effectiveness of teleworkers themselves (Chapman, Sheehy, Heywood and Collins, 1995; Gray, Hodson, and Gordon; Gupta, Karimi, and Somers, 1995; Tung and Turban, 1996). Perceived deficiencies may also not only affect job productivity but also impact negatively on teleworker morale and job satisfaction (Kugelmass, 1995). Accordingly, further data collection should help pinpoint where UNIOZ employees are experiencing problems associated with communications technologies. In particular, further investigation is also needed with respect to the closer specificity of user satisfaction levels with present levels of support. Clearly, this has implications for university management if telework at UNIOZ is to be adequately supported. An absolute base-line for further technological planning, however, is to ascertain just how many teleworkers the University has, or is likely to have, in terms of both present and likely adopters. Methodologies are also in place for this additional range of data collection.

In most telework scenarios, flexibility and improved control of work, levels of technical support, and job and lifestyle issues cannot be seen in isolation. Rather, they often inter-lock, one fuelling the other, as teleworkers play out their aspirations (Kugelmass, 1995; Olson, 1989). Accordingly, in the next expanded study, the objective will be to obtain quantitative data of high quality on a holistic view of telework at UNIOZ, advance deliberation of attendant issues amongst key stakeholders, and isolate factors contributing to sustainable telework at the university.

In summary, the use of semi-structured interviews in the context of qualitative research has provided useful ‘first step’ in achieving baseline data grounded in the actual experiences of the University’s teleworkers. Finally, the qualitative data presented in this paper offers an opportunity to extend the research for UNIOZ’s further telework planning and policy development. It may also suggest a useful approach for other universities considering similar issues in their own institutions.

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