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# TELECOMMUTING IN THE AUSTRALIAN HIGHER EDUCATION SECTOR: MODELING CHOICE

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## Abstract

*The paper signals emerging empirical research into employee choice with respect to telecommuting or telework. As a corollary to prevailing management, socio-cultural, and economic themes a position is taken with respect to employee preferences in light of changing organisational or institutional circumstances. The attempt to model employee preference judgments, or choice sets, in respect to organisational attributes is intended to lead towards a determination of the relative importance of telecommuting's stated benefits as a specific form of work scheduling, or work design. Existing research into the application of Integrated Communication Technologies (ICTs) to enable work at a distance continues to be lauded in the popular press. Nevertheless, a view has been expressed that "methodological weaknesses", and problems with the control of "extraneous variables" has "limited the empirical research" to date (McCloskey & Igbaria 1998). There is little doubt that the incidence of telecommuting (telework) across private and public sector organisations is increasing in those countries associated with the Organisation for Economic Co-operation and Development (OECD). What follows is an insight into exploratory work with choice modeling as an approach to understanding individual preference towards telecommuting or telework practices amongst a particular category of employees – university academics. A key objective is to ascertain the extent to which elected choice to telecommute is motivated by not only a response to reconcile competing demands associated with time at work, but also by the desire to maintain alignment of work output with changes in operational imperatives or organisational strategy. As a particular category of employees, academics exhibit a need to "find new ways of balancing traditional work patterns" (McInnis 1999, p. 63) in the face of sector wide change in higher education. It is fully anticipated that quantitative assessment of respondent choice, which incorporates examining differences between "salient" and "important" organisational attributes will uncover new ground in the quest to understand, in behavioural terms, those factors which conjoin to limit the uptake of formally constituted telecommuting programs. New directions in research are an important adjunct to developing knowledge and organisational policy into how technology can be more effectively appropriated to enhance work design and work flexibility. This is nowhere more urgently felt as in the higher education sector in Australia and in other OECD countries.*

**Keywords:** Telecommuting, telework, choice modeling, higher education

## Introduction

Work design and work scheduling issues are inherent in any theoretical discussion of telecommuting, telework, and distributed work. Increasingly, these topics surface and are recycled to challenge prevailing assumptions concerning organisational life (Jackson & Van Der Wielen 1998, p. 1). The emphasis on employing integrated communications technologies (ICT's) to leverage work and overcome the limitations imposed by distance, time, and place (Herdman 1995) has featured in a number of significant reports in recent years (Hensher 1999, Herdman 1995, Johnston & Nolan 2000, Johnston & Nolan 1999). The resurgence of interest in telecommuting may well be directly attributable to the introduction of new technologies, and globalization (McClelland 1995, Nilles 1997, Pratt 1984). Yet the wider range of interests in the drive for 'flexibilization' (Kugelmass 1995) and casualization' of labor markets (Herdman 1995, p. 45) has underscored the research in telecommuting over the years (Guimaraes & Darrow 1999, Korte, *et al.* 1988, Kugelmass 1995, McCloskey & Igbaria 1998, Nilles, *et al.* 1976) as well as in the areas of

telework (Huws 1991, Jackson & Van Der Wielen 1998, Nilles 1997, Wintrob 1996) and distributed work (Geber 1995, Huws 1996, McClelland 1995). The conceptual terrain is difficult to fathom at times, and this presents researchers with something of a dilemma. While one can appreciate the risk of telecommuting (as a construct) becoming embroiled in a sort of metamorphosis caused by the overlapping of a “whole range of other developments and innovations” in teleprocessing (Johnston & Nolan 2000, p.11), it must be remembered that telecommuting represents the narrower (generic) application of teleprocessing as explicated in figure 1. The calls for hard evidence or empirical studies to support prevailing beliefs about telecommuting have been quite pointed in reaction to the inadequacy of existing telecommuting research (Cunningham, *et al.* 1998, Fowler 1996, Geber 1995, Pratt 1984, Voss 1996). The merits or demerits of telecommuting (*ie.*, working at home or at some other remote location and using ICT’s in lieu of the requirement to travel to the office (Fitzer 1997, Handy 1996, Kugelmass 1995)), while widely canvassed in the popular literature, have done little to redress the paucity of substantive evidence.

It is clear that in many organizations, management and employees remain ambivalent about formulating and even implementing telework arrangements. Indeed, futurists have begun to assert that advanced societies are not taking “full advantage of technological improvements” to free up time and allow those participating in the workforce to seek other pursuits (Theobald 1998, p. 3). Conventional emphases on economic costing models, management practices, and personal social priorities have essentially obscured important research questions.

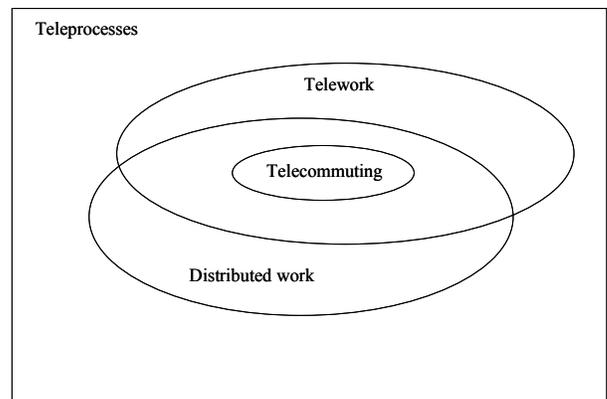
Given the current tensions in workplaces across most industry sectors, it seems implausible that prevailing research into telecommuting or telework has overlooked crucial questions relating to the “psychological” domain of particular organisations or institutional settings. Organisations comprise individuals and the collective will and aspirations of such individuals at work. It, therefore, follows, given “growing pressures” and “competing demands” (McInnis 1999, p. 63) on time at work and space utilisation across industry sectors, that empirical evidence ought to exist to either confirm, refute, or revise existing hypotheses relating to organisational adaptation or resistance to change (Qvortrup 1993, Swangin-Horton 1997).

Technological developments are one acknowledged source of transformations in work practice. In the telecommuting telework arena such transformations are couched in all too familiar turns of phrase like: ‘improved flexibility’, ‘organisational responsiveness’, and ‘increased in productivity’ (Guimaraes & Darrow 1999, Johnston & Nolan 2000, p. 29, McCloskey, 1998). With such clear requirements at stake, it is argued here, that new lines of enquiry are urgently needed to drive fresh impetus into existing theories about “work and place” and “work and space” (Acker 1998, McClelland 1995). Indeed, the much touted distribution (or re-distribution) of work (Geber 1995, Herdman 1995, Nilles 1997, Theobald 1998) espoused over the last twenty or so years, deserves a far more substantial epistemological foundation than the plethora of pilot studies which collectively suggest a “boom” in telecommuting (Guimaraes & Darrow 1999, Johnston & Nolan 2000, p. 29, McCloskey, 1998).

The interface between organisational research, information systems research, and management research must be more rigorously engaged, if theorists are to better understand individual employee attempts to deal with changes in workloads.

A systematic review of the existing literature reveals that the predominant focus for studies in telecommuting stem from:

- (a) Economic considerations – where risk and return assessments exact high input and establishment costs invariably brought on by setting up telecommuters in home offices or satellite offices (Hesse & Grantham 1991, Littlefield 1995, McClelland 1995, Wintrob 1996).
- (b) Technical considerations – where the perplexing non-uniform rate of technology diffusion, not least because of problems with bandwidth, generates protracted difficulties for telecommuters (Geber, 1995; Pliskin, 1997; Pliskin, 1998);
- (c) Managerial considerations - where fully or partially redeployed employees need to be managed in very different ways, as the nature (tenor) and the extent (quality) of managerial processes (i) leadership (Voss 1996), (Voss 1996), (ii) trust (Handy 1995, Handy 1996, McClelland 1995), and (iii) control (Fowler 1996, Littlefield 1995) are prominent concerns; and
- (d) Socio-cultural considerations – where remote work poses inherent difficulties for individual employees – the sense of isolation, a lack of identification, and less visibility undermine employee self-efficacy. Indeed, working from home generates



**Figure 1. Overlapping Terminology Associated with Teleprocessing**  
(Source: Herdman 1995, p. 167)

role conflict particularly for women with multiple roles as mother, homemaker, and professional (Corbett 1998, Hill 1995, Pratt 1984, Raghuram 1996).(Corbett 1998, Hill 1995, Pratt 1984, Raghuram 1996).

In short, with the focus of attention in these areas, the low take up rates in telecommuting has to be more comprehensively understood (Johnston & Nolan 2000, p. 29, p. 47).

## Choice Modeling Australian Higher Education Sector Telecommuters

The Australian Higher Education sector is possibly an ideal research target for “choice modeling” (Riedesel 1996), since the level of ICT diffusion is quite high, and in general terms the workplace climate for academics is one where degrees of individual autonomy have been institutionalised. Furthermore, the subjects are likely to be predisposed to telecommuting arrangements, since traditional work arrangements in higher education environments call for periods of seclusion to engage in reflection, marking, research or fieldwork, and something of a revolution in the higher education sector has been unfolding for over a decade challenging the fundamental nature of the work environment for academics (Cunningham, *et al.* 1998, Reid 1996, Winter & Sarros 2000). Previous researches on the efficacy of telecommuting arrangements in higher institutions have been conducted elsewhere (Alston 1997, Clark 1998, Goldberg 1993), but it appears that no studies apply choice modeling. Previous studies have examined factors influencing a decision to telecommute, and the effects of telecommuting on morale (Clark 1998, Swangin-Horton 1997), but once again preferences were not the explicit focus of these studies.

There is a dearth of research data concerning telecommuting in Australia. It has to be conceded that an opportunity exists for research that can inform policy initiatives in the higher educational sector, in particular.

The distinguishing characteristic of “Choice-Based Conjoint” is that respondents express preferences as they choose ‘concepts’ from ‘sets of concepts’ rather than rating or ranking them (Baron 1999, Riedesel 1996). Access to focus group data becomes an integral part of identifying the attributes to be modelled. In this case, the “salient” *versus* the “important” organisational or institutional attributes will have a direct bearing on the research. The requirement to determine the relative importance of organisational attributes is essentially what the Choice-Based Conjoint experiments are intended to isolate (Baron 1999, Green & Srinivasan 1978, Johnson 1974) the subjects to consider tradeoffs among desirable alternatives. A computational method that derives utility scores accounts for each subject’s choice, and these are then modelled (simulated) to determine the preferred attributes of the organisation (Green & Srinivasan 1978, Johnson 1974, Riedesel 1996).

## Research Implications of the Choice Modeling Approach

The paucity of empirical research to assist in the development of policies to cover telecommuting militates against broader attempts to engage organisations in more flexible forms of work scheduling. Choice modeling has proved itself to be extremely efficacious in the areas of economics research and marketing psychology (Johnson 1974). Arguably, a new approach to telecommuting research involving respondents from the higher education sector may provide a suitable basis for conjoint experimentation because academics conventionally:

- (a) demonstrate sufficient autonomy in their work arrangements to combine flexiplace (Goldberg 1993);
- (b) have relative control of the time aspects of their work (*i.e.*, flexibility in choosing actually when to work) (Coaldrake & Stedman 1999, McInnis 1999);
- (c) demonstrate, in varying degrees, they rely on electronic communications to achieve work outcomes (Kugelmass 1995, pp.20-22).

Such work-related behavioural traits are central to unearthing further insight into what reasons may contribute to a lag in uptake of formally institutionalised telecommuting practices. Furthermore, the findings of such a study would shed further light on current problems constraining implementation of formal policies in the area of telecommuting. Similarly, such an examination is expected to highlight aspects of organisational practice that might confirm the need to align vital dimensions of role and function amongst academics as organisational change takes place. Furthermore, the findings of choice-based research will shed new light on current constraints to policy implementation where formulated telecommuting initiatives languish in some professional spheres. Much has been voiced in the literature about telecommuting’s capacity to increase productivity improve flexibility, and bring about positive impacts on the crucial balance employees attempt to secure between home (family) and work commitments (Hill 1995). There is a need to conclusively establish that formally negotiated attempts to design organisational solutions enabling employees

to integrate social and work-related commitments contributes significantly to securing satisfying work arrangements (Geber 1995, Goldberg 1993).

Finally, since matters of choice factor significantly in terms of individual and social consequences, it is conceivable that individual employee, motivation, commitment, and loyalty to an organisation hinges on the quality of the working relationship. The opportunity to recast telecommuting as a specific instance of work design, or work scheduling needs to be taken up. Indeed higher educational institutions are not unique in their resolve to cope with the challenges to their basic operating assumptions. Nor would anyone reasonably expect that academics would forgo (*ie.*, not choose) more efficacious means of attending to the mandated requirements of their role and function, if telecommuting, *per se*, represented one such option

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