

Comparative European Perspectives on the Diffusion and Adoption of Telework amongst SMEs

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Introduction

According to a prediction made by AT&T in 1971, 50% of all Americans would be working from home by 1990 (Sturesson, 1998). While this prediction appears wildly optimistic with the benefit of hindsight, telework (as a form of home-working) has long been seen by its proponents as a panacea to many of society's ills. The 1973 oil crisis, for example, prompted Nilles et al. (1976) to advance 'telecommuting' in response to this crisis at a time when technology was still relatively expensive. Often underlying much popularist thinking and writing on telework is a technological determinist assumption that given the right technology, it is inevitable that teleworking will 'take off'. Such a position, this paper will argue, is untenable given the complexities associated with implementation of new technologies. Even today when the appropriate technology is relatively cheap and far more advanced, telework still does not enjoy anything like the take-up predicted. This suggests that non-technical complexities related to the adoption and management of telework may not have been fully understood nor adequately addressed.

The eGap research project (eGap, 2004), whose qualitative findings are summarised in this paper, was designed to investigate these complexities in small and medium-sized enterprises (SMEs) from a pan-European perspective. Sponsored by the European Commission's IST Programme, eGap findings contribute to a literature that includes other cross-national IST studies including ECaTT (2000), EMERGENCE (2003) and SUSTEL (2004). For example, the ECaTT survey not only identified positive and negative responses to new organisational forms associated with telework, but also underlined the differences between various European countries regarding telework implementation and usage (ECaTT, 2000). Other European comparative studies

include those by Peters and Den Dulk (2003), which reports on differences in managers' views in northern and southern European countries, and Raghuram et al. (2001), which examines variances in flexible employment practices across Europe.

However, before we can advance, the term 'telework' itself needs to be defined as its usage is problematic. There is a wide variety of terms that describe telework in some aspect or other. Qvortrup examines terminology surrounding telework, and provides a long list of terms including, "teleworkers, telecommuters, flexiworkers, distance workers, electronic homeworkers, teleguerillas, home-based nomads, electronic moonlighters, satellite office workers, mobile teleworkers, full- and part-time homeworkers, telecottage workers" (Qvortrup, 1998, p. 23). These are not all synonymous with 'telework', he notes, and are based in any event on different criteria related to various technical, geographical, organisational and legal aspects. After reviewing various definitions by other commentators, the eGap project adopted the following definition of telework in order to capture as broad a picture of practice as possible - "working offsite (eg at home, at a customer site, on the move) whilst linked all day or for some period in the day to a firm's computer systems" (eGap, 2004, p.1)

eGap examined the adoption and practice of telework under a number of themes (flexible working, work-life balance, work measurement/control, corporate social responsibility, and business performance) by questioning stakeholders including actual 'teleworkers' themselves, their managers, trades unions, technology providers, business support agencies, and national/regional policy-makers. Stakeholder responses are then examined from differing units of analysis, including the micro or individual view, the meso or firm-level view, and/or the macro or societal view. Before looking at these qualitative findings, a brief introduction to some key issues for the eGap project is set out below.

Telework and the Rights of the Individual Teleworker

Telework raises a number of issues with regard to human factors, especially in terms of flexible working and/or home-working arrangements. If telework for the most part is *home-working*, then family environs and dynamics are pertinent subjects in the debate. While the main carers for children – mothers – have always had to juggle working and care responsibilities, the adoption of telework for many fathers opens up opportunities for new domestic arrangements. But Casimir (1998) notes that such new vistas do not necessarily translate into more egalitarian sharing of domestic roles unless the woman also has a full-time job. If the woman does not work or has a part-

time job, then Casimir finds that the man takes little additional responsibility for domestic and familial tasks. Other researchers examine the general impact of telework on the lives of 'virtual workers'. One analysis, performed at an IBM site, revealed perceptions of greater productivity, increased flexibility and longer work hours due to telework, as well as an equivocal influence on work/life balance and a negative influence on teamwork (Hill et al., 1998).

In the UK, flexible working has been the subject of recent legislation whereby since April 2003, permanent employees with a child under six or a disabled child under 18 have become eligible to approach their employer – in formal legal terms - to discuss their care needs, and by implication, more flexible working arrangements. However in research pre-dating this, Perin (1998) observes that flexible schedules and work locations are only truly flexible for those on the top management rungs and that it is too early yet to ascertain the effect of this legislation on non-management cadres. Another legal development concerns health and safety issues and Employer's Liability Insurance pertaining to home working. Somewhat paradoxically, failure to enforce such legal strictures could be seen as a facilitator to telework, as there is an avoidance of certain costs for the employer or employee. However, if a teleworker were to be involved in an accident whilst working at home, then home insurance cover might be invalidated.

According to Bibby (1996), trades unions across Europe have identified a number of issues in terms of the rights of home-based teleworkers. These include, the preservation of employment status, voluntary participation, the right to continuation of some degree of workplace working, remuneration of home expenses incurred, the right to privacy, measures to combat isolation and to promote career development, safe working conditions, and adequate alternative childcare facilities. Furthermore, trades union fears in the UK were raised by a national report that noted that teleworking could lead to the development of a two-tier employment structure, with full-time, permanent office-based workers at the periphery (TUC, 1998). The success of teleworking is bound up in the nature of formal telework agreements, and the same report identifies 'consultation', the 'voluntary nature of the agreement (to telework)' and 'timescale' as three factors that must be considered. The issue of formal agreements is further explored, for example, by Stradwick and Ellis (1998) who look at telework practice at Mobil Oil and the Co-op Bank.

Telework, Management Control and Trust

From a managerialist perspective, any shift towards more distributed forms of working begs questions for firms in terms of the control, empowerment, supervision and performance evaluation of teleworkers. In this vein, Johnson (1998) highlights the potential for 'discretionary service behaviour' whereby remote workers may exhibit positive or negative behaviour depending on whether they perceive that the 'psychological contract' with their employer to be 'intact' or 'breached'. If the latter is the case, then there may be instances of 'tele-shirking' (ie failure to attend to work tasks in some measure) and 'imbalanced relationships' (where a teleworker aligns their loyalties to a firm's customers and/or suppliers rather than to the firm itself). One inhibiting influence to the adoption of telework therefore has been the fear that workers, as reported by Olson (1988), shirk their work tasks if left without physical management oversight.

This raises the core issue of employer/employee trust, a topic explored by many writers on telework including Handy (1995) and Huws et al. (1990). In essence, the key question is, can individuals working remotely be trusted to be conscientious in regard to their work tasks? In a study looking at on-line trust in financial services, Knights et al. (2001) explore how problems of trust and especially control are managed. They observe how, "a long tradition of management thought conceptualises trust and control as opposing alternatives" (p. 3), but argue that this dichotomy is false. For them, trust and control are not necessarily polar opposites - rather, they may be complementary and may be combined to varying degrees in everyday working life whether for professionals (who are ascribed as having high levels of trust and requiring low levels of control) or for 'workers' (low levels of trust and high levels of control). Trust, however, is a two-way attribute in that workers also place trust in their employer that, for example, their wages will be paid and the terms of their working contracts will be honoured.

Project Description and Methodology

eGap was an European Commission-funded project which analysed the reasons why, within specific professional working environments, telework in SMEs faces difficulties or succeeds in implementation. The overall objective of the project was to highlight 'best practice' for implementing appropriate and sustainable telework activities within SMEs whilst building on previous European research noted earlier.

The eGap study focused on SMEs with between 1 to 249 employees, in accordance with normal EU firm size classifications, in five member countries. For comparative purposes, well-defined and economically significant regions in each country were selected, from which the sample of SMEs were drawn. The regions were:- Rhone-Alpes in France; Emilia Romagna in Italy; Central Transdanubia in Hungary; Tampere in Finland; and 'Greater West London Wedge' (comprising six London boroughs) in the UK.

The project used both quantitative and qualitative methodologies in evaluating telework experiences within the SMEs and analysed relevant data and insights given by the various stakeholders. Cross-regional analysis aided in highlighting 'best practice' for a given environment. The project combined three types of investigation:

- Analysis of the different political, legal, financial and technological environments that influenced telework implementation, which together highlight the specific national/regional conditions for telework's progress or delay. A trans-national analysis is reported in Mako et al., 2002.
- Quantitative surveys of at least 300 SMEs within each region of the 5 European partner countries in various sectors of manufacturing and services. The surveys were undertaken via telephone interviews between November 2002 and January 2003 and a comparative analysis was produced by De Nicola et al, 2003.
- Sixty qualitative, face-to-face interviews carried out in each region with selected individuals both within the sample of SMEs (e.g., owners, managers, teleworkers) and with other relevant stakeholders such as regional policy makers and trade union representatives. Thus 300 actors across Europe were interviewed, using a semi-structured questionnaire, on their telework attitudes and experiences. The interviews took place in the summer of 2003 and a trans-national comparative summary was written by Dickson and Clear (2003).

Survey Findings

The qualitative findings discussed below are taken from the eGap trans-national report (Dickson and Clear, 2003) that synthesised individual partner findings from the interviews and so is cited extensively below. There are a large number of factors that were found to affect the diffusion and adoption of telework, a selection of which have been grouped for the purposes of this paper, under the themes of 'trust and work autonomy', 'change management' and 'regional infrastructure support'.

Trust and Work Autonomy

A common theme running through all the national findings was the view that for firms and their employees to practise telework successfully, then certain pre-conditions must exist in terms of general management culture. Fundamental to such a culture is trust in employee motivation, and faith in an individual teleworker's professionalism and self-discipline. The Italian partners see such an approach as based on a 'logic of collaboration', which they argue is uncommon in small businesses in Emilia Romagna (ibid, p18). All the research partners argue that in the absence of this management approach telework is unlikely to be anything other than a marginal activity in SMEs. In any event, the eGap partners observe that managers enjoy autonomy and the trust of their employer as part of their role. For other employees, the level of trust afforded teleworkers may be based on measurement of output rather than measurement of input (such as hours worked). Therefore, for sales personnel, for example, the UK partners observe how, "success or failure with meeting sales targets will define a set level of trust for the firm towards their employee" (ibid , p. 40).

A management culture in which trust of employees is lacking and dominated by physical oversight of employees (and what the Italian partners term as the 'logic of subordination'), will militate against successful teleworking. Once 'out of sight', sceptics argue that employees would be out of control and as a result would fail to exhibit a sense of responsibility towards their employer, leading inevitably to a decline in productivity. Additionally, the UK partners observe that in a home environment where individuals are used to relaxing, it may be more difficult for workers (including managers) to motivate themselves to work. In the same vein, the Italian partners observe that, "once distanced from the rhythm of the working environment, workers become less productive" (ibid, p. 41).

Notions of trust also impinge on wider commercial interests such as transaction security and intellectual property. The Hungarian and UK partners note, for example, the need for firms to protect sensitive and confidential information, especially in relation to financial dealings, and some interviewees emphasize that security of transactions is more difficult to manage at a distance. The UK partners raise an issue relating to intellectual property (IP), such that if valuable industrial knowledge were accessible from home, then the illegal extraction of such commercially sensitive information and intellectual property is easier. (ibid, p. 31). Despatch of valuable data is but a few keystrokes away. Even when the data in question was held centrally, it nevertheless highlights the potential dangers that IP holders might face through extending a firm's ICT network into the home. The UK authors conclude that

managerial concerns over IP protection may well slow telework diffusion as a result.

Change Management

Trust or lack thereof is also linked by the eGap partners to organisational structure. Italian partners note that in those firms where telework was not practised, there was evidence of deeply rooted antipathy by entrepreneurs to new methods of work that might take office-based staff off-site. They are critical of the inability of SMEs in Emilia Romagna to change traditional management practices, and feel that, “a general problem of mentality and backwardness was identified in which the culture of visual controls prevails” (ibid, p. 33). The issue of ‘visual controls’ or ‘physical oversight’ is one that is noted, to varying degrees, by all partners. An apparent lack of faith on the part of some firms is linked in partners’ minds to the firms’ hierarchical structure.

As the French partners observe, “work organisation still appears to be deeply influenced by practices of the industrial era (e.g. direct supervision, wages connected to presence, etc.) and by cultural specificities (i.e., the weight of hierarchy in the sector)” (ibid, p 33). This goes some way to explain a common cry that, “old hierarchical rigidities (need) to be broken down in order to allow telework to thrive and for its benefits to be enjoyed” (ibid, p. 33). The French authors add that, “a traditional company must reconsider its whole structure and organisation in order to successfully implement telework” (ibid, p. 33-34).

Traditional structures and demarcation are bound up with the current technologies in use, as is most clearly seen in Hungarian SMEs, which militate against the diffusion of telework. Additionally, due to limited financial resources, SMEs in Hungary appear more interested in adopting telework on an opportunistic basis. For example, subsidies to SMEs during cycles of central government initiatives appear to directly influence the level of adoption. In these cases, when such funds become available, telework jobs are created, but when funding ceases, so too do the jobs. French researchers find that management issues related to remote working “are not yet tackled, because generally most teleworkers are top managers, sales staff and/or training instructors working off-site. These workers are generally able to be self-managed at a distance and self-organised off-site” (ibid, p. 42). This highlights the challenge to SMEs wishing to extend teleworking to non-management ranks.

Moving from a dominance of traditional onsite working to more distributed forms of working was judged to be problematic by many respondents. Risks to a firm’s overall

business performance were noted, for example, by Finnish and UK researchers who put forward arguments that the dispersal of employees would, over time, lead to degradations in internal service delivery and organisational learning. The Finns note that, “the flow of information inside the company and the transferring of tacit knowledge, in particular, constitute the most challenging areas to be developed in the future” (ibid, p.41). One UK firm proposed the use of bulletin boards and chat rooms to get over such communication problems, though French, Italian and Finnish partners emphasize that there is no real substitute for face-to-face communications.

There are problems raised by telework for work measurement. The French partners point to the difficulty of measuring productivity for remote workers in small firms. Increased overheads also can be an issue; as the Italian partners observe, “To be able to carry out part of one’s work from a distance, a huge amount of organisational work is needed for the planning and codification of tasks” (p. 42). Additionally firms appreciate that telework does not suit all workers as the Finnish partners noted: “teleworkers (are) expected to be independent and to have self-discipline as well as an entrepreneurial attitude towards their work” (p. 42). So while some workers enjoy the autonomy that telework can bring, others do not.

Regional Infrastructural Support and Policies

The eGap project is also concerned with the regional environment and infrastructure within which teleworking activities were taking place with a view to highlighting particularly significant initiatives or influences. Regional policy initiatives over telework occur within all the five partner regions, though each has unique features and effects (ibid, p38). In Finland and Hungary, such initiatives are clearly rooted in the national framework, whilst in France, Italy and the UK, regional initiatives appear more likely to come from non-governmental regional agencies such as business consortia (eg, Chambers of Commerce in France), multi-party regional agreements as in Italy, or from combined business/local government fora as in the UK. Their importance cannot be underestimated because their position and therefore influence is often due to their direct contact with the more important protagonists such as the SMEs or trade unions.

The existence of a plethora of regional agencies in West London, all with varied responsibilities loosely connected to economic development issues would suggest that there are many apparent supporting institutions in the area to assist in adoption and diffusion of ICTs and telework (ibid, p.37). However, few of these agencies have much specific interest in telework *per se*, and even when they do address it, there is no coherent or co-ordinated agreed framework between the various agencies, from which interested SMEs might draw some real guidance or support. This finding finds resonance in other regions also, where little regional infrastructural support for telework can be identified, unless it is part of a stronger national programme as in the case of Hungary, but even there the regional commitment appears to dissolve once the national programme ends. There were some French suggestions that telework activity contributes to regional land planning in France and that regional communications infrastructure has fostered SME development, but other French respondents, greater in number, were more sceptical on this latter issue, noting the region did not exhibit high awareness of ICT issues relating to SMEs (ibid, p. 37).

In France, regional government is not directly involved in telework development among SMEs, though it might be involved in indirect financial support. More significant are the Chambers of Commerce and Industry (CCI), with strong business memberships, that are largely financed by taxes levied by local authorities on local firms. A CCI makes up a 'general-purpose, regional economic community' with a strong interest in local development programmes so that, for example, they encourage local actors to adopt and use ICTs more efficiently. SMEs are privileged targets as they play a leading role in the local economy.

In the Tampere region of Finland the advantages of telework have been long recognized. The city of Tampere is clearly a high economic growth centre, and several of the surrounding municipalities suffer from net migration. Telework is seen as one way of warding off this net migration. Paradoxically, another problem in the Tampere region is the recruitment or retention of skilled employees, whereby the number of those who leave the labour market each year is larger than the number of those who start work (ibid, p. 36).

In Emilia Romagna, appreciation of relevant infrastructural developments in that region was more positive. Everyone recognized recent efforts made in the region to encourage the development of ICTs and many are convinced that they live in the most technologically advanced region in the country. One interesting Italian development is the establishment of 'telecentres' where independent teleworkers can work or interact. Interviewees maintain that they are useful for training purposes and exposing young

people to using ICTs , while noting that a well-frequented telecentre can resolve the problems of the unsociable nature of telework (ibid, p.37).

A similar ‘drop-in’ centre, initially established with local government funds but now run privately, exists in West London where firms’ executive staff are encouraged to join for advanced ICT training and to discuss ‘state-of-the-art’ ICT developments for their organisations. It was argued that such positive ‘hands on’ experiences for the executives has beneficial effects on the diffusion of telework in much the same sort of way that demonstrations of the latest technology by ICT manufacturers have on sales.

Perhaps the most interesting regional initiative exists in Italy, with two specific regional agreements being recently signed by representatives of SMEs and trade unions, though it appears too early to tell whether these agreements will be widely embraced. These collective agreements reflect the level of attention being given by all parties to the practice of telework and its future potential. Both agreements, based respectively in Bologna and Modena, recognise telework as a positive instrument for the individuals, in terms of personal choices and family requirements, and for collective benefits such as transportation, work viability, privacy, healthcare and quality of life (ibid, p. 51).

Conclusions

If the five eGap regions are taken together, it is clear that the principal inhibiting influences for the adoption and diffusion of telework are related to human and organisational factors rather than technological ones. Thus this paper highlights the importance of trust and work autonomy, change management and regional infrastructural support on telework adoption and practice.

In terms of trust and work autonomy, for the majority of a firm’s personnel, there are still tendencies – to a greater or lesser extent depending on the region – on the part of many firms to prefer ‘physical oversight’ as the dominant form of management control. This appears to be the major inhibiting influence on the diffusion and adoption of telework across the five regions. The fear of what individuals might do or not do when ‘out of sight’ underlines a basic lack of trust in employees, and without trust telework is unlikely to be successful. As the Italian partners stress, management thinking based on the ‘logic of collaboration’ needs to replace thinking based on the ‘logic of subordination’. Thus hierarchical models of control need to be reconfigured in some measure to allow greater work autonomy and discretion on the part of the

worker. However, such autonomy may suit some individuals but not others.

In terms of change management, one key to such a shift in approach may be the measurement of output of individuals as opposed to the measurement of input. The eGap partners found that those teleworking in SMEs were mainly from management grades, individuals who already have a great deal of autonomy to organise their own work, and who tend to be measured by performance. In these terms, telework is still in its infancy as many of the issues concerning remote working for SME staff are still waiting to be tackled. These include work measurement.

In terms of regional infrastructural support, each of the five partners note many unique regional features and policies with regard to telework, and this makes it difficult to generalise across the five regions. However in Finland and Hungary, regional initiatives appear to be rooted in national strategies, while in France, Italy and the UK, regional initiatives appear dependent to some extent on non-governmental consortia or agencies. Nevertheless all partners voice criticisms about a lack of overall coherence at the regional level towards telework.

Other than for reasons of retention of valued staff members and the extension of the geographical scope of sales regions, the challenge for telework is that it is not market driven in the same way that developments in, say, mobile phones are. So proponents of telework might talk of the efficiencies that telework can bring to bear on a small firm's operations, but these are not readily apparent to the owners of firms (ie those with the greatest power to influence telework adoption) who may view any such proposition with fear. So governments, whether national, regional or local, try pushing from the top. The subsequent problem is that bureaucratic policies and directives, however well-intentioned, do not appear to meet the needs of SMEs wishing to adopt telework. Certainly there is much SME apathy noted in the national reports towards poorly co-ordinated, fragmentary regional/national telework policies. This may well corroborate the introductory perception that diffusion of telework will be slower than proponents might wish. It may take a new generation of entrepreneurs who are better-versed in ICT exploitation before telework takes off in SMEs.

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Bibliography

- Bibby, A. (1996), *Trade Unions and Telework*, International Trade Secretariat FIET, Autumn. <<http://www.andrewbibby.com/fietrpt.html>>.
- Casimir, G. (1998), Notions from the home: changes in household activities due to telecommuting, in R. Suomi, P. Jackson, L. Hollmen and M. Aspnas (Eds), *Teleworking Environments. Proceedings of the Third International Workshop on Telework*, Turku Centre for Computer Science, Turku, Finland.
- Dickson K and F Clear (2003), *Transnational Report of the Qualitative Research Phase: A Comparative Analysis of Regional Findings*, Report D2.1, eGap Project, European Commission. <<http://www.egap-eu.com>>
- Di Nicola P., E. Como and F. Della Ratta (2003), *Transnational Report on the Surveys*, Report D1.1, eGap Project, European Commission <<http://www.egap-eu.com>>
- ECaTT (2000), *Benchmarking Progress on Electronic Commerce and New Methods of Work*, IST Programme, European Commission <www.ecatt.com>
- eGap (2004), *E-Society Gap Assessment Project*, IST Programme, European Commission, <www.egap-eu.com>
- EMERGENCE (2003), *Estimation and Mapping of Employment Relocation in a Global Economy in the New Communications Environment*, IST Programme, European Commission <www.emergence.nu/erdb>
- Handy C. (1995), Trust and the Virtual Organisation, *Time Magazine Special Edition*, May-June: 40-50
- Hill J., B. Miller, S. Weiner and J. Colihan (1998), Influences of the virtual office on aspects of work and work life balance, *Personnel Psychology*, v51 n3 p667
- Huws U., W. Korte, and S. Robinson (1990), *Telework: Towards the Elusive Office*, Chichester: John Wiley
- Johnson, S. (1998), Teleworking Service Management. Issues for an integrated framework in Jackson, P and J. Van Der Wielen, *Teleworking: International Perspectives*, London: Routledge
- Knights D., F. Noble, T. Vurdubakis and H. Willmott (2001), Chasing Shadows: Control, Virtuality and the Production of Trust, *Organization Studies*, March.
- Mako, C., M. Illéssy, and P. Tamási, (2002), *Transnational Report on the Local Environments*, Report D3.2, eGap Project, European Commission <<http://www.egap-eu.com>>
- Nilles, J., R. Carlson, P. Gray and G. Hanneman (1976), *The Telecommunications-Transportation Trade-off*, Wiley.
- Perin C. (1998), Work, space and time on the threshold of a new century in P. Jackson and J. Van Der Wielen (1998), *Teleworking: International Perspectives*, Routledge
- Peters P and L. Den Dulk (2003) Cross Cultural Differences in Managers' Support for Home-Based Teleworking, *International Journal of Cross Cultural Management*, December, v3, pp.329-346
- Olson M. (1988), Organisational Barriers to Telework in W. Korte, W. Steinle and S. Robinson (Eds), *Telework: Present Situation & Further Development of a New*

- Form of Work*, North-Holland
- Qvortrup, L (1998), From teleworking to networking: definitions and trends in P. Jackson and J. Van Der Wielen, J, *Teleworking: International Perspectives*, London: Routledge
- Raghuram S, M. London and H. Larsen (2001), Flexible employment practices in Europe: country versus culture, *International Journal of Human Resources Management*, August, no. 5, pp.738-753
- Stredwick, J. and S. Ellis (1998), *Flexible Working Practices*, Institute of Personnel and Development, London, UK.
- Sturesson, L (1998), The Mis-Match Between Suppliers and Users in Telework, in P. Jackson and J. Van Der Wielen, J, *Teleworking: International Perspectives*, Routledge.
- SUSTEL (2004), *Sustainable Teleworking: Understanding and managing its Economic, Environmental and Social Impacts*, IST Project, European Commission, <www.sustel.org>
- TUC (1998), *New Information and Communications Technologies at Work*, Trades Union Congress, London, UK.