Telework Arrangements Demand In Finland

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Abstract

For many years the information society has been a target for speculation, and today the United States (Information highways), European Union, and national governments, along with advanced companies, are taking steps towards systematic policy changes and enlarged applications for information technology. One part of these activities lies in the area of workplace reform, where telework is going to be one of the major change agents. It is not yet known how telework is going to change the workplace, how fragmented work tasks become as a result of technology changes, or how employment is affected. The main thrust of this paper is not to predict comprehensive effects, but to show that national labour market system characteristics, company policy and employee motivation factors can all have an effect on the demand and advancements in telework. First part of the paper discusses some trends from the viewpoints of political decision makers, company managers and teleworkers themselves, that might affect the demand for telework. The second part of the study highlights some key findings from a survey of Finnish telework applications. This description of the Finnish situation concentrates on business applications because business applications cover the majority of teleworkers.

1 Introduction

When looking at today's telework applications, it is possible to acknowledge a growing amount of successful cases in various parts of the world. Telework is usually an issue of standard technical solutions available to ordinary employees. Software houses, for example, can create special arrangements with firms, but even tailored applications are usually based on standard information technology (IT) and basic telecommunication technology (TT). On average it seems that technical opportunities and economical solutions are merging, and because of such integration, it is possible to see comprehensive business solutions using teleworking tools. What is still needed, however, are scenarios and better understanding of new work organizations and motivations of decision makers, such as politicians, company managers, and employees, to advance telework applications.

Europe at the moment is in a period of reorientation. Innovative technologies, structural change in production, and unemployment fluctuation are all economical and societal processes which are now conventional. But actual policy changes and actions to guide these processes, or at least facilitate adaptation to this new environment, are few. In this sense, the white book of Growth, Competitiveness, and Employment [1] represents an attempt to summarise development, create discussion, and develop economical and societal policy changes to manage past and current processes. Concentration on information technology and telework are among the eight strategic tools for policy action [2].

Telework is seen both as a solution for urban congestion and unemployment. Telework benefits both the environment and those rural areas which are trying to develop and employ their residents. For businesses telework can provide lower costs and better use of skills. For employees telework can provide greater flexibility, much lower commute times, and a better opportunity to concentrate on essential tasks.

According to Peter Johnston, over fifty percent of employment in Europe now involves information management. Eighty percent of new jobs are created in the service and information sectors. At the moment, ten million people are teleworkers in the sense that they are using telecommunication links in order to communicate with their colleagues. [2]
2  Finnish macro-level demand

2.1 Potential and actual amount of telework

People who use information in their work have the opportunity to be free from time-and-place-bound work arrangements. In 1989, 1,007,000 Finns were employed in information-type occupations.

In 1980-89, the total Finnish workforce grew only 4.6 percent per year, while the number of people employed in production and distribution-related information occupations rose 29 percent. The number of people working in information occupations, in fact, rose more than the total increase in all other jobs combined during a five-year period. [3]

In 1990, 44 percent of Finnish wage earners used modern information technology in their daily work. In the autumn of 1994, 8.5 percent of the Finnish workforce did some work at home with a computer. Today, approximately 1 out of 6 potential people in information occupations are teleworkers. In total, the proportion of teleworkers in Finland is a little more than eight percent of all wage earners. Teleworkers refers to employees who work outside employer facilities at least some of the time by using modern information technology. Employees doing overtime or maintaining second jobs outside the office beyond ordinary business hours are not considered to be teleworkers. Every tenth working Finn falls into this latter category.

Some advanced companies - mainly within telecommunications and information technology - are consciously using telework as a part of their business strategy and personal policy. A growing amount of mainly unofficial arrangements exist which are based on IT and flexibility in working hours. Finland and former Nokia Data (today part of ICL) are among the first teleworking firms. It also is possible to find flexible work arrangements in other economically successful companies like Digital Equipment Corporation and Sol - a leading Finnish cleaning company. Nokia Data is adapting teleworking methods to include electronic mail. The Telecom Finland is introducing telework through a special teleworking programme. [4]

2.2 Interest groups of telework

In Finland it is possible to define five groups of organizations interested in telework. The first is the public sector. National level government officials are interested in regional and rural development, technology policy, employment, and quality of working life. Municipalities are interested in developing their specific economies and creating greater employment within their regions.

The second group consists of IT-suppliers and telecommunication operators. Here the interest lies in infrastructure development and product marketing.

The third cluster consists of educational and research facilities. Universities and other educational institutions are active in targeting new education methods, integrating work with education, and promoting local and regional entrepreneurship. Telework and network structures are also a current topic for research.

The fourth group is comprised of private companies and their roof organizations. Some advanced companies are even interested in business process redesign arrangements in order to obtain savings and achieve better productivity and product quality. The supply of qualified labour force is a key critical success factor for businesses.

The fifth sector is heterogeneous. Associations and organizations in the telework field, individual teleworkers, and telecottage operators all have a natural interest in possible telework activity. [5]

In order to examine telework opportunities for regional policy and efficiency in work organizations, a proposal called the National Telework Development Programme has been prepared by order of the Advisory Committee for Rural Policy with the help of an expert work group. [6]

2.3 Telework and labour markets

Telework has been a target for contradictory viewpoints. On one hand, it is known that telework is cost-saving, that it combines work with leisure, that it has various positive social effects, and that it has been successfully applied to needs of both employers and employees. Motivating factors for employees to enter teleworking arrangements include increasing personal freedom, the possibility to concentrate on work, and the opportunity to expand the recruiting area. (e.g. [7], [8], [9], [10]).

On the other hand, telework has been regarded by trade unions as a means to stimulate home industry and by others as a means to exploit the female workforce. Increasing monotony brought on by doing work close to or in the home, lack of socialization with fellow employees, and difficulty maintaining competitiveness by comparing oneself to colleagues are some of the problems mentioned in connection with telework [11] [9] [12] [13] [14] [15] [8].

3  Demand from the viewpoint of company managers

This section bases on insights gained from three studies partly still in operation in the field of telework or in associated fields at Turku School of Economics and
Business Administration:
1 study of telework as a business area for teleoperators
2 study of telecommunications management within Turku area in Finland
3 study of management problems connected with telework.

These studies have been conducted as interviews with business or information systems management.

According to these studies, several trends affect the feasibility of telework from the viewpoint of management of enterprises. We will here separately speak about current trends in general management and especial trends within information resource management.

Telework is clearly supported by some of these trends, while some trends oppose the dissemination of telework within society. Some management trends are neutral as it comes to telework. The trends are summarized in Table 1.

Table 1. Trends within telework from management point of view

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Emphasis on organizational learning

Studies on strategic information systems have shown, that the successful systems have not been any products of systematic planning, but those of continuous change and learning processes. This evolutionary way of thinking supposes that information system planners are working under bounded rationality. That's why their plans are not perfect and must be updated regularly as new information will be discovered. Missing facts must be substituted by intuition. This has been found out for example in studies by Earl - Feeny - Lockett - Runge [16]. The best performing companies seem not to be those that plan best but those that learn best [17]. With fast changing external and internal demands, companies have to adopt very fast. In these cases fast learning, and too unlearning of old practices is of key importance.

Organizational learning can be used as an excuse for initiatives and projects that have no immediate feedback. Long-time learning is more important than short-lived profit making. Telework easily falls to the category of initiatives not bringing in any immediate benefits. So, organizational learning can here too be used as a reason to start telework projects.

Networking

Because of more effective information systems, but too because of a multitude of other reasons, governance structures of doing business turn increasingly away from hierarchies into markets [18]. This is not only a development in the raw-material and end-product -markets, but as well in the markets for other production factors such as work-force. This trend should also support telework.

Concentration on core competences

Concentration on core competences is actually an old principle thousands of firms and managers have used for decenmies to oppose change. First during the last few years this concept has crystallized and its application in a positive sense has begun [19].

Using this trend to oppose change means that management opposes all kinds of experiments and new things: we have to do business now, and can not afford any experiments. This is an old method to oppose changes for example in information technology field. However, by doing this management forgets to develop capabilities needed in the future. Telework is often seen as a marginal experiment, to which companies concentrating on core competences should not step in.

On the other hand, concentration on core competences might mean that tasks not clearly belonging to those core competences might be given to external parties -outsourced, say to teleworkers. In this sense core competence -thinking might favor telework. However, if marginal work is given to teleworkers, their position is not going to be very much appreciated and upgraded.

Elimination of hierarchies

The process of elimination of hierarchies stems from several sources. Maybe the most important is the easier management and control of flatter organizations [20]. The other is better customer service: power to make decisions should be given there where the customer contact is. On the other hand, we can too see defence of hierarchies in many important comments [21].
If management is looking for better and even more direct control on employees through elimination of hierarchies, telework fits in to the picture badly. Telework always means less control on the employee.

If management is looking for better customer service through elimination of hierarchies, telework might be in line with this development. Especially arrangements where personnel can work closer to customers because of telework fits in well to this trend.

Employee empowerment

Elimination of hierarchies is in best case combined with the empowerment of employees. This empowerment can be seen in the dimensions of authorization to make decisions and in the allocation of different resources. The agency theory would give theoretical foundations to these studies, too [20]. Telework often disconnects the worker from daily interaction with extraordinaries, and so extra freedom to make decisions is needed. One problem of telework is the expense of needed facilities. If management is really willing to invest into employees, even facilities needed for telework should form no major problem [22]. So, in conclusion, employee empowerment goes well in line with telework.

Internet

Internet is the current hot name in telecommunications. The commercial word has found the possibilities of Internet. Internet can support telework in many ways: First it may be used as a cheap channel to take care of the telecommunication facilities needed in telework. Internet itself will affect the prices of other telecommunication services too. Second, it is a strong force opening up the eyes of management for telecommunication possibilities, which might then too affect their position on telework.

Search for flexibility

As seen from technological point of view, flexibility is provided through server/client-architectures. Such architectures too support telework very nicely, since teleworkers can easily be seen as clients using company resources (servers) in their work. So, technical developments towards client/server-architectures should be in line with the technical requirements of telework.

Outsourcing

In line with downsizing, information resource managers have developed a better overview on what needs to be done self and what can be purchased from outside. Such kind of separation of tasks supports too the division of tasks to those suitable for telework and those not suitable for telework.

Software agents

Especially management feels overburdened with information flow catered by modern effective information networks [24]. Software agents are used as tools to filter messages to management.

If this is to be seen as a trend towards management too concentrating into its core activities and minimizing contacts with external word, telework too supports this trend, because teleworkers by definition do not burden management constantly, just as results of independent work are being assessed and evaluated.

Architectural thinking

At the same time that information resource management as well a general management is looking for methods to provide flexibility, a constant search for basic structures and permanent arrangements is going on. This trend has been visible since the classic article of Zachmann [25]. The key point for telework is telecommunications architecture. If information resource managers define support for telework as a corner-stone for telecommunication architecture, the whole organization has got it more easy to implement telework. The opposite situation can of course too be true.

4 Demand from the viewpoint of employees

The teleworker him/herself is most directly affected by the telework arrangements. Work contents can radically change because of telework arrangements. As for the content of telework, three different views have been presented:

1. Job descriptions may take on a Tayloristic trend due, for example, to technical reasons related to the tools and the need for the standardization of decentralized tasks. In other words, segmentation of
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5 Current telework demand in Finland: some survey results

5.1 The project and sample

The Finnish Experience on Telework (FET) is a research project in which the extent and multitude of telework, its present situation, and possible development in Finland is estimated. Finland's experience with telework has also been compared with the rest of Europe in conjunction of the TELDET project which was financed in 1994 - 1995 by the European Union.

The under-lying goals of the FET project are to estimate the possibilities of teleworking arrangements to:
1. encourage the reorganization of work,
2. improve the quality of working life, and
3. improve worker productivity.

It is also the goal of the FET project to estimate the effects of teleworking on the above three aspects of the labour market while contemplating effects on overall unemployment. It is hoped that teleworking supports businesses in their endeavour to find employment.

To support the achievement of these goals, special inquiries and case studies about the present situation of telework in Finland have been conducted. In these population and decision maker surveys and case studies especially following subjects have been studied:
- interest in telework among population
- employee telework experiences
- organizational effects of telework
- interest in telework arrangements by individuals and organizations
- telework arrangements from an organizational point-of-view.

In practise, to serve the principal purpose of the promotion of telework in Finland, the FET project has also participated to the European telework project Teldet as a national level contributor to acquire comparative European information about telework.

In the analysis of the Finnish situation following questions have been answered: What are the major facilitating factors in the implementation of telework? In what way does telework improve the arrangement of resources; particularly regarding efficiency and productivity?

The representativeness and the comparability of the results obtained in FET project which are described below can be estimated with following information:

Telework related questions were asked in connection of Working Life Barometer, which is a population survey conducted by the Statistics Finland, a state-owned institution and a public authority formerly known as Statistical Centre of Finland. The survey was based on random sample and it was executed by...
telephone interviews from the 12th to the 18th of September.

The Working Life Barometer survey was targeted to all 18 to 64 year old employed wage-earners in Finland. This total population consisted of 1,750,000 persons. The sample size in the survey was 1313 wage-earners, which is a representative number of people in this category. In the survey telework related and other information was collected from 1209 persons. There were 104 missing observations, so the response rate was 92%.

The results of the survey are representative in all age groups. There is only a slight difference between sexes, which is typical for most of the interview surveys (female respondents are easier to catch up).

The FET project has connections to the pan-European Telnet-project. TELDET stands for "Telework Developments and Trends. A Compilation of Information on telework - Case studies and Trend Analysis". The project was funded by the European Commission and it ran 18 months from 1994 to 1995.

Main target of the project was to obtain an European estimate of the extent and forms to which telework is practised. The work included

- more than 50 case studies in the 12 countries of the 1994 European Union and in Finland. (Finland became member of the Union in 1995)
- pan-European representative surveys of the general population, of employers and of employers
- an analysis of the impact of government measures for telework stimulation.

The general population survey of the TELDET project, which is cited below, was carried out in the five largest countries in EU (Germany, Great-Britain, France, Spain and Italy) among interviewees of a minimum age of 15 (in Germany: 14). They were selected on the basis of standard quota-based random-walk procedures, which the small deviations from quotas being corrected in analysis by appropriate weighting. In total 5347 people were interviewed in their homes.

5.2 Some highlighted results

5.2.1 General awareness and feasibility of telework

Telework is a well-known word in Finland. According to a survey conducted as part of the National Working Life Barometer study - a part of the FET project to be explained later - three out of four Finnish wage-earners have heard or read about telework via magazine, radio, or television. In this respect, Finland has succeeded in advertising telework. Only the United Kingdom and France come near Finnish figures concerning the familiarity of the term telework. In these two countries telework is familiar term to just over half of current employees.

A European Union-financed TELDET survey indicates that interest in full-time work-at-home schemes varies from about thirty percent in Germany to forty-two percent in Spain. Correspondingly, thirty-six percent of Germans and forty-five percent of Spaniards are interested in teleworking at least one day a week. Finland is one of the top countries in Europe in this respect.

Teleworkers are mainly employees in higher income brackets who have a strong educational background. They are usually independent professionals who work under pressure, but are satisfied with their position in the firm and with their firm's working conditions. Relationships with superiors and colleagues are typically strong, and employees who become teleworkers feel that their output is worthwhile and influential.

Three out of four teleworkers are male. About forty percent of persons who telework are upper-level officials. Telework is particularly used within technical planning areas. Every fifth teleworker belongs to a work organization of twenty to fifty employees, while relatively more teleworkers operate within small- to mid-size organizations maintaining about one hundred to two hundred employees each.

5.2.2 Enterprise management point of view

Although in Finland telework is viewed by many as a mutually beneficial work tactic for both employers and employees, at present employees have expressed more interest in telework than employers. However, telework does serve the interests of employers as well as employees by facilitating the creation of innovative, rapid inventory systems in order to achieve client-oriented results. With any system changes also comes the need for work organization evolution.

Today telework in Finland appears to be a win-win situation for employers and employees alike. Telework arrangements offer employees an opportunity to control their schedules and their work environment. Telework arrangements offer employers an opportunity to flexibly and efficiently manage change in resources and environment.

Whereas employers and managers view telework usually as beneficial for the company, they anyhow oppose it in the fear of losing their own power. If power means control over employees - especially over their time spent at the office - then telework most obviously takes power away from management. Managers should be educated to see that their power is actually emphasized through telework arrangements, since these arrangements
offer them a possibility to take advantage of different resources - most importantly employee time - in a new flexible way. Controlling of resources is not important - taking advantage of them is.

Management maturity for telework is most obviously one of the topics neglected in current discussion academic and practical as well - on telework. Technical problems of telework are to be considered as solved, legal matters can be discussed out, and since employees usually form a bigger group, at least some of them usually find interest for telework. With all these needed conditions in place, one single manager in a wrong place can ruin telework initiatives. Management through networks and without ongoing personal contact is an issue needing increased attention.

In small enterprises the telework threshold may be low because employees are familiar with one another and work results are easily seen. Telework arrangements are in these cases easily negotiated between employees and their superiors.

Result-orientated management, process-guided thinking, and innovative utilization of telecommunications all support the introduction of telework from the viewpoint of management. Telework obstacles, on the other hand, include unsuitable tasks, control and monitoring difficulties, along with manager ignorance and hesitation to try telework techniques. Hardware and other capital costs are not as significant an obstacle for telework arrangements today as in the past.

According to FET project experiences, selective actions are needed to encourage telework. Actions include the need for managers to obtain cognitive and technical skills necessary for initiating telework experiments.

In connection of telework promotion it is important to pay attention to how businesses organize their resources. Through telework arrangements, employees with customer contact should be empowered.

Specifically, it is essential to recognize three conditions necessary for businesses to initiate telework. Basic technical capabilities, training courses, and work organization development are all needed to achieve lasting telework applications. Likewise, telework should be seen not only as a way of working, but also as a form of organization which supports organizational pursuits to adjust to environmental changes.

5.2.3 Employee point of view

Finnish interest in telework is among the highest in Europe. According to FET data, almost forty percent of Finnish wage-earners are interested in doing most of their work at home. At least one working day per week would be located outside the office, say fifty-four percent of respondents. Every third wage-earner is interested in working in a separate telework office.

Initiation of telework has been considered by one out of five Finnish wage-earners, even though only fifteen percent of the interviewees thought that telework would be appropriate for their jobs. Apparently assumptions about telework suitability were affected not only by personal tasks, but also by employer attitude toward telework. In the TELDET project it has been estimated that development potential of telework in Europe is on average one fifth of workforce. Finland is at the same, or possibly a higher, level.

There are similarities in Finland between interest in telework and current working life conditions which have been affected by the threat of losing a job and increased workloads as a result of holding onto a job. So far, these connections have not been verified by statistical research, but empirical data does show that telework is a form of work organization which offers the opportunity to work in the right place and for the right need. Telework arrangements can offer people who are living under the threat of unemployment a last chance to keep their job by offering part-time or fixed term tele-employment as an alternative to full-time work.

Principal factors facilitating telework initiation from the viewpoint of employees include independently-performed job tasks, quick-completion tasks, curiosity and willingness to try something new, and an opportunity to be effective in substantive tasks. Telework emphasizes also the opportunity to do flexiwork; to schedule work around current work situations and individual needs. Only one out of five teleworkers have a written telework contract, and consequently, most telework occurs without special arrangements.

At the individual level, shaping teleworkers' job functions depends on skill. In Finnish cases, the majority of job functions improved as far as the salary earner was concerned. Voluntary arrangements where each party could watch his own interests were more questionable.

Teleworkers' elements of work also depended on the personnel policy pursued. In Finland there were no negative personnel elements in the telework strategy according to salary earners. On an international level, some negative telework strategies exist.

On a labour market level, the effect of telework on salary earner job functions depends on skill, employer strategy, national legislation, and labour demand and supply. Labour market segmentation is seen when core workers have utilized the possibilities of developing their work. Tasks of those groups who belong to the secondary sector do not provide an opportunity to develop teleworking functions.
6 Comparison to other European countries

Even our short comparison between the Nordic and other European telework initiatives [33] highlighted many differences. There is reason to believe that many environmental factors are still maybe even more different in other countries, say in the U.S.A or in the Asia. No direct conclusions over different countries should be made in the area of telework (if anywhere).

In the Nordic countries (Finland, Sweden, Norway, Denmark and Island) the society structure, political system and general standard of living are very homogenous. Yet differences too exist. Especially Norway, Sweden and Denmark have got the strong motivation to support the large rural areas. A wide network of telecottages has been established to the Nordic countries: 10 in Norway, 39 in Sweden, 44 in Finland and 10 in Denmark in 1993 [33, page 17].

In Europe, telework applications have a good growing potential. There are over 50 million personal computers in use in businesses in Europe, and over 60% of the work force is involved in information management activities. In general telecommunication infrastructures are well developed, and the education level of work force is high [34, page 3].

The European community actions fall under three categories:
1 Telework stimulation
   - decentralization of large organizations
   - development of networked telework centers
   - small business networking
   - urban and inter-urban traffic decongestion
   - supporting and co-ordination actions
2 Assessment of the social, environmental and economic impacts of advanced communications
   - macro-economical and trade impacts of advanced communications
   - employment trends related to use of advanced communications
   - potential impacts on European regional development and cohesion associated with use of advanced communications
   - social trends in use of media and communications services
   - potential environmental benefits of advanced communications
3 Regional research co-operation
   - establishment of advanced communications and telematics research
   - supporting facilities in less favoured regions of the European Union
   - co-operation in science and technology
   - teleworking and information relay networks in central and eastern Europe.

Perhaps the biggest differences between the Nordic countries and the rest of the Europe can be seen in the area of labour markets. The Nordic labour market is very unproblematic from the viewpoint of telework, with the following characteristics [35, page 77].

- a fairly egalitarian atmosphere at work
- a large degree of discretion for employees
- participation in technology and organization development.

In addition to these European Community -level actions, all countries are of course running their own development programs.

The Nordic labour markets might be regarded as regulated ones in comparison with the U.S. and Central European ones where unionization rates are lower and the labour legislation allows less substantial benefits than in Finland and Sweden.

In the U.S.A. and Central Europe, the social benefits in connection with child birth and the child care services provided by the government are less significant than in the Nordic countries. When the social norms adopt full-time or part-time domestic work among women, telework will constitute an opportunity of salaried employment to mothers of small children, and this opportunity will certainly be used.

7 Conclusions

Telework is a hot topic too in Finland, and possible employers are in principle interested in starting telework exercises. Some advanced companies in Finland - mainly on the area of telecommunications and information technology - are consciously using telework as a part of business strategy and personal policy. In working life there exists a growing amount of - usually unofficial - arrangements which are based on information technology and flexibility in working hours.

However, the practical arrangements to be made can turn out to be difficult ones. First, the telecommunication costs caused can manifest themselves to be too high because telecommunication is still quite expensive with deregulation and following price reductions first taking their initial steps. Technical problems belong to the picture, but can usually be solved, when it is not about a major bottleneck in the basic infrastructure such as insufficient data transfer rates.

Secondly, the strong Finnish trade unions can too turn themselves against telework, even though in the latest time the general opinion has turned increasingly in favour of flexibility of work arrangements. In general, the high unemployment ratio ruling at the moment makes employers less active in taking new initiatives, especially if even little opposition is met with.
However, employees become more active at the same pace.

Thirdly, employers are not accustomed to the idea of telework, and all the possibilities of this working arrangement are often less than well understood and used. There is clearly a big task of education and marketing for the telework concept among the Finnish companies.

When we are looking at the current telework applications, it is possible to recognise a growing amount of successful cases in various parts of Europe. In average it seems to me that technical possibilities, scenarios of new work organization and economical solutions are coming nearer each other and we are able to see the enlarging scale of business solutions in the area of telework.

No conceptual definition of telework was attempted at in this empirically oriented paper. The authors wish however to point out that the very concept of telework is a difficult one. If the central elements of the concept are information work, and working mode assisted by information and telecommunication technologies, nearly all modern work in organizations falls under this category. So a technical point of view is not adequate. Rather, the major tensions and most interesting research questions – and maybe the very term in itself – in telework materialize themselves in the relationship between the employee and the employer in the control over work: its timing, tools, organization, compensation and reward systems, and assessment of results.

The major inhibitor for telework seems to be lacking interest from the side of employers. From this point of view, research on the possible benefits and obstacles of telework should be intensified, mainly from the point of view of individual organizations in competitive situations, but too from the viewpoint of the society as a whole, where evidence of benefits is however already better documented.

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