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TELEWORK
IN INFORMATION AND LIBRARY ENVIRONMENT:
A LITERATURE REVIEW

BP 100

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May 2002

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Acknowledgments

I am extremely grateful to Ms. Leah Black who was kind enough to put again the text of her "Proposal for telecommuting at the Michigan State University Libraries" onto a Web page so that I could view it.

INTRODUCTION

Research devoted to the issue of telework has been increasingly growing since the 1980s producing lots of books, articles and Web documents.

The study of this form of flexible work involves many disciplines and methodologies (sociology, psychology, management, economy, environmental and gender studies, ICTs, international labour law etc.)

Every aspect is so relevant that it would deserve a specific study.

The following literature review is intended to report only about research conducted about the most important aspects of telework, those which are likely to be relevant for library environment, leaving out other aspects however important (such as legal, contractual, union issues etc).

Part 1 aims to introduce telework as an issue of general interest focusing on aspects which are also common to library setting.

The literature review has gone deeper in Part 2, which is devoted to research and studies about telework in information and library environment.

I have tried to give also space to early work-at-home library experiences from which telework stemmed.

Research in this field seems to be quite overlooked and here I present all what I was able to find.

The huge development of ICTs has caused new jobs opportunities and new kinds of jobs which can be done only from a distance.

These new jobs do not belong anymore to the nation which has created them but workforce is global and work can be done from all over the world (e.g. loss of jobs in Italy may depend upon the shift of jobs towards Bangalore software companies).

It is particularly difficult to guess which chances to survive are ahead for telework.

"Outsourcing, dumping and globalisation" are becoming very common words now-a-days. Has telework still good reasons to survive in this virtual world? It's a big guess.

But let's start now from the beginning of this long and complex issue.

1.1 - Task 1 - Part 1 : Telework

1.1.1 – WORK   EVOLUTION

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*"There was a place called 'the office' and there was
an activity called 'office work'
and the former was where we did the latter"*
(Gordon, 1997)

ICTs innovation

"Although the concepts of flexible time and working at home have been in existence for many years" (Perrault, 1996) technology has only very recently provided the means to realize telework arrangements. The number of jobs information intensive in nature (Perrault, 1996) is growing, while traditional jobs of the past, in agricultural and industrial environments, are constantly diminishing in number.

The computer has already changed the way we work and now it is expanding where we work (Heinz, 1990).

The importance of ICTs development is acknowledged worldwide: it enables work independent of location (ITAC, 2001); opens up a range of new options in the organization of work (Accart, 1997); it facilitates changes in the location of work, organization of working hours, combination of skills required to deliver particular tasks, contractual arrangements, organizational structures (Accart, 1997).

A major factor is education. According to Di Nicola (1998) due to the quick obsolescence of knowledge we have to provide new training every 10-15 years. Education is the key: people must learn how to use ICTs tools effectively (ETO, quoting Crawford, 1996).

Legacies of agricultural and industrial economics

Though work has undergone radical changes in the last decades, its present organization recalls patterns produced in the last centuries when all workers had to go to one single location - the farm or the factory - so they could work together at the same time: these were the patterns of agricultural and industrial economy (Gordon, 1999; De Masi, 1999).

In this century the traditional concept of a single assigned physical place to work is for the majority of office workers obsolete **:** it is expensive and ineffective (ITAC, 2001) but workers must spend their working time together in order to demonstrate that they have worked (Nilles, 1996).

Synchronization of work, working time and place no longer matches the needs of today's workforce (ITAC, 2001), of production demand, of families requests and it also damages economy and socialization; but it is a compulsory "collective rite" full of contradictions (De Masi, 1999).

According to Nilles (1995) further problems arise from geographical and physical concentration of work: many firms move their premises to the suburbs, causing an increase in commuting time for workers, upsetting the families and dropping productivity and enthusiasm.

Work environment today

There is an ever increasing number of workers involved in information-related activities.
Telework growth has been driven by economic pressures on work organizations which are pushing employers to adopt strategies in order to survive and cut costs. The globalisation of product and labour markets, recession and lower economic growth are key factors (Moon and Stanworth, 1997); also the public sector is squeezing its resources and any form of flexible work is very attractive (Moon and Stanworth, 1997). Long-term career with a steady job is an obsolete concept (Moon and Stanworth, 1997) and it has emerged the concept of extended working life. Employers tend to adopt "deskilling, surveillance, cost-minimisation, externalisation" (Moon and Stanworth, 1997). There is a general trend towards outsourcing while guerrilla workers (De Nicola, 1998) are proliferating. These free-lancers accept any kind of work that downsizing company do not accomplish anymore.

Social changes

Major changes are taking place also in society: the number of families with both parents working is growing (Verespej, 1994), more women are working (Blake, 1999) and there are fewer parents who stay home to raise children. This structural change "means that no one is home to provide care either for young children or elderly parents when a health crisis occurs" (Verespej, 1994).
There is also a new trend towards downshifting (Blake, 1999).

Impact of telework

Some (ETO, quoting Crawford, 1996) suggests the idea of telework which "revolves around the person rather than the other way round. The fundamental idea with telework is to "decentralize the office" (Gordon, 1999); while moving into an economy based on information we do not need anymore a centralized office (Gordon, 1999) and work does not depend anymore upon the place of the worker (Nilles, 1995).

Interest in telework has been growing due to: oil crisis of 1973 (Blake, 1999), fewer people working in manufacturing (Blake, 1999), downsizing of organization during the 80s (Blake, 1999) reduced costs and increasing performances of ICTs (Blake, 1999; ETO, 2000b), improving levels of customer service, concern about the environment (ETO, 2000b).

1.1.2 – Definitions of telework

The word "telework" (or "teleworking") has no universal definition and this fact causes a lot of ambiguities and misunderstanding, which make statistical data unusable for any type of benchmarking, or general comparison among world data.
The main source of confusion is the common use of another word, "telecommuting", coined by J. Nilles, and very much in use in the USA (ETO, 2000b). The "wild" usage of both the terms has create a real babel, increased by the wide variety of forms and characteristics of telework and teleworkers (corporate employees vs. self-employed or free-lance workers; mobile workers vs. home-based workers, telecentres, employees who work as free-lancers or contractors in the evening …)(ETO, 2000b).

The European Commission - who also boasts of having popularised the term "telework"- (ETO, 2000b) - has adopted a very broad definition for both : " Teleworking or telecommuting …the use of computers and telecommunications to change the accepted geography of work" (ETO, 2000a).

Telework is much broader term than "telecommuting" (ITAC, 2001) and has more global objectives (Nilles, 1995). It means: using telecommunications to work wherever needed (from a home-office, telework centre, satellite office, client's office, hotel room or from your office to a colleague 10 floors down) (ITAC, 2001) or any substitute of commuting via ICTs (Nilles, 1995).

According to Nilles (1995) "telecommuting" means use of ICTs to replace transportation; to bring work to the workers instead of bringing workers to work ; work outside the office premises one or more day per week, either at home or in a telecenter (Nilles, 1995) involves telecommunications to avoid the commute to the traditional office (ITAC, 2001).

ITAC (2001) believes that a source of misunderstanding can be referred to "telecommuting" when used only in relation to salaried employees who work at home (work-at-home variety of telework). De Masi (1999) goes as far as stating that telework can take place even without ICTs.

Today experts prefer the term "telework" which describes any work that is done away from the office whether at home at satellite offices, by all kinds of workers, including employees, independent contractors and home-based business owners (Wells, 2001) and some use the terms "work at home" and "home-based workers" for the sub-group working at home (Ellison, 1999).

Apgar (1998) defines telecommuting as " performing work electronically wherever the worker choose [and] generally supplements the traditional workplace rather than replacing it".

According to the German Federal Government (Deider, 1997) telework is "all tasks supported by information and communication technology".

Home-base work and telework have blurring boundaries. Even if Harrison (1998) rightly points out that "Homeworking is working from one's own home, and can involve anything from hand-knitting jumpers to installing a high technology workshop in your garage" there is still much confusion and sometimes – as shown in the section devoted to library setting - it is quite difficult to clearly separate home based work, telework and e-work.

Di Nicola (1998) points out that there is a small number of teleworkers if we consider only teleworking employees but this number rises a lor if we take into consideration also teleworking free-lancers.

1.1.3 – Measurement and kinds of telework

Accordingly to the great variety of definitions "The actual extent to which telework … is occurring … is hard to pinpoint due … to definitional and methodological issues" (Ellison, 1999). Also Wells (2001) and ETO (2000a) agree that estimates of teleworking (telecommuting) vary so much because of differences in definitions and methods of collecting data.
A proof of this confusion is the fact that the number of the US telecommuters falls somewhere between 9 and 24 million! (Wells, 2001).

Beyond discrepancies in the estimated number of teleworkers, Korte and Gareis (2001) point out that there is a great divide between north and south European countries. Considering just home-

based teleworkers percentage of the total labour force the results are as follows: Finland (6.6%), Sweden (5.3%), Netherlands (4.0%), Denmark (4.5%) are fast movers while Italy (1.6%), France (1.2%) and Spain (1.3%) are at the bottom.

The Telework '99 Conference estimates that European teleworkers were 9 million in 1999 (6% of the total workforce) and in Italy represented only 3.6% of the working population (Ciacia, 2000). Simon (1997) perspicaciously states that "the difficulty of producing exact numbers is manifold due to the global nature of telework"

Is telework successful?

"Depending on how one slices the pie" (ITAC, 2001) current assessments of the success of telecommuting vary widely (Wells, 2001).
The literature gives different results, but the majority think that telework is growing.

The numbers-are-growing-party is well represented: Gordon (1999), Ciacia (2000) ITAC (2001), Wells (2001). Huws (1991) believes that there are too many arrangements to give a unique definition of telework, but all the categories involved are growing.

Instead Armour (2001) – but her position is rather uncommon - states that numbers are going down so much that some companies aren't offering telecommuting programs because workers do not want them.

Kinds of teleworks

Major types of teleworking appear to be significant, but there is some mess in the literature, where different aspects are blended together.
Huws (1991) – a major scholar in the field of telework, states that "telework is so nebulous and ill-defined concept that it can hardly be said to exist in any clearly-defined and quantifiable way".
Naumann (2001) – making a long and controversial distinction short and clear - believes that different kinds of telework can be identified on the basis of place (home-based telework, carried out from telecottages or telecentres, mobile telework, offshore telework) time (part-time, full-time, alternate, supplementar), worker's status (contract-workers, free-lance, entrepreneurial teleworkers) and means of communication (online or offline).

ETO (2000b) points out the existence of informal or even illicit telework which takes place when management adopt the practice with no corporate approval and it shows that in UK informal telework is more common than formally supported programmes.

1.1.4 - The promised land of telecommuting

"Discovery consists of
seeing what everybody has seen
and thinking what nobody has thought"
(Meglio, quoting Szent-Gyorgyi von Nagyrapolt, 1991)

Telework : from the 1960s to September 11th

In the '60s futurologists and utopians dreamt that everybody would telework in the future (Gruppo di studio sul telelavoro, 1999).
The popularity of telework emerged during the gas shortages of the 1970s, Nilles used the term telecommuting for the first time and AT&T and Bell started experimenting telework (Gruppo di studio sul telelavoro, 1999). In the '80s telework remained alive only in the minds of scholars and of ICTs firms due to missing reasons which had made it previously attractive (Gruppo di studio sul telelavoro, 1999).
In the '90s telework started a new life: San Francisco earthquake proved the utility of telework and the Bangemann Report identified telework as a key element in the Information Society (Gruppo di studio sul telelavoro, 1999). Studies and pilot programs proliferated, Internet provided a unique tool, while the US and European government launched financial campaign to support telework (Gruppo di studio sul telelavoro, 1999).
The September 11th attacks have shown the potentials of telework and New York workers have moved home to continue their activities while Manhattan offices were empty (McGee, 2001).

Wrong predictions of utopians

Telework has not been universally successful and the once-futuristic trend that some experts predicted has yet to materialize (Wells, 2001) due to: costs, complexity , lack of training and support to teleworkers (ETO, quoting Crawford, 1996); managers remain reluctant especially because the pace of change in today's workplace is faster; telework is considered a career killer (Gordon, 1997), especially when the economy sours and job cuts mount (Armour, 2001).

In Italy other major reasons for the failure of telework seems to be the low investment in ICTs, costly telecommunications, and inability to use efficiently new technologies on the part of workes (Ciacia, 2000).

1.1.5 - Telework impacts

As many scholars refer (De Masi, 1996) interest has been growing around the telework issue, but many publications and hundreds of journal articles tediously repeat the same long monotonous list of pros and cons.

Social impacts

Research indicates that telework can give new opportunities to enhance the equality of opportunities for people with disabilities, who cannot get to the workplace every day (Gordon, 1999 ; Accard, 1997; What is the future of telework? 2001; ITAC, 2000), recuperating from temporary injuries or illness (Brimser and Bender, 1995) and for female workers who would not work at all (Accard, 1997; What is the future of telework? 2001; ITAC, 2000).

ITAC (2000) states that telework can provide potential employment of underutilized segments of the workforce : retirees, workers in urban areas, reducing unemployment (Accart,J.-P. 1997) among economically disadvantaged individuals (What is the future of telework? 2001). : even monks and nuns (Millar, 1996) and prisoners (who work for Best Western Hotels) telework (Di Nicola, 1998) .

Nilles (1996/97) and Di Nicola (1999b) go as far as to say that telework could improve the utilization of urban spaces which cause the present separation between dormitory areas and business areas while Gordon (1999) and Accart (1997) state that it can bring employment to people instead of squeezing them into small areas.

According to Gordon (1999) telework can increase regional development; revitalize rural communities (Nilles, 1995), geographically remote areas or areas from which manufacturing industries and farming have moved away (ITAC, 2000).

Environmental impacts

Many researchers consider telework a solution to environmental problems, traffic and transport (Nilles, 1985 and 1986/1987; Accart, 1997; Di Nicola, 1999b): it can reduce toxic gas emission and pollution (ITAC, 2000; Di Nicola, 1999b), the use of limited natural resources (ITAC, 2000) and guarantee huge savings in petrol consumption (Accart,. 1997; Weiss,1992).

Instead Gordon (1999), a telework guru, believes that "it would take an enormous amount of telework to make a difference" and the problems "go far beyond the daily commuting to work": "telework can only help".

As Mitchell (2002) has recently pointed out "in the UK, 14% of car commuters account for 50% of all car commuter travel. So if this 14% could be encouraged to telework for half of their work days, we would reduce car commuting by 25%"

Natural disasters, terrorism and special events

According to Weiss (1992) telework has a great potential for helping to cope with natural or man-made disasters and also with weather problems seriously affecting productivity (snow, hurricanes, earthquakes and energy crisis) (McGee, quoting Bernard, 2001). The US Congress is developing telework programs after the anthrax crisis (Keller, 2002) and the September 11th attacks were a wake-up to find ways to quickly shift many employees to home offices (McGee, 2001).

Against these opinions Siskos (2002) argues that "even collapsing skyscraper, anthrax-tainted mail and warnings about further terrorism didn't raise the number of telecommuters, because of the recession".

Also special events such the Olympic games in Atlanta gave rise to telework arrangements (Frank et al., 1997).

1.1.6 - Outcomes for the organization

Benefits

One of the major benefits for organizations seems to be the improved ability to recruit (Wells, 2001) and retain talented employees (ITAC, 2000; Raghuram et al., 2000): the costs for replacing and train employees are much higher than those involved in setting up a telework arrangement. (What is the future of telework? 2001; Meglio, 1991). In fact in the US many companies have difficulty attracting college graduates who usually want to go into their own start-up business (Gordon, 1999).

Telework can provide real estate savings (ITAC, 2000; Wells, 2001; Rayasam and Stevenson, 2001; Raghuram, Wiesenfeld and Batia, 2000; Raines, Leathers, 2001) especially in very costly cities through reduced office space requirements (Wells, 2001) and savings in facility costs (Lee, 2000; Setting ground rules,1994); creates good job opportunities without building new facilities and increasing traffic (Wells, 2001).

Most studies point out the increasing productivity (Ciacia, 2000; Rayasam and Stevenson, 2001; Lee, 2000; Raghuram, Wiesenfeld and Batia, 2000) related to: saved commuting time; lack of distractions and interruptions (ITAC, 2001); harmony with the biological clock (Wells, 2001); faster processing times (Internet); reduced absenteeism (Raines, Leathers, 2001) caused by maternity, medical and personal day-to-day related leave (ITAC, 2000; Wells, 2001; Lee, 2000; What is the future of telework? 2001); less time and money wasted in traffic congestion (Nilles, 1995; Wells, 2001; Lee, 2000); improved competitiveness (ITAC, 2000; Accart, 1997 ; Coffee, 1999).

Telework can enhance the image of a company (Verespej, 1994) and increase morale and commitment among employees (Verespej, 1994); opens up new forms of teamworking, collaboration or telepartnership (Accart, 1997; Nilles, 1995).

In the USA telework permits to comply with workplace laws, such as the American with Disabilities Act and Family, Medical Leave Act, and Clean Air Act (Wells, 2001; Rayasam and Stevenson, 2001; Setting ground rules,1994).

Disadvantages

Ford and Butts (1991) believe there are problems related to the control (telecommuters can work part-time for another company ; sensitiveness of corporate information).
According to Di Nicola (1998) major problems for employers come from management and organization issues: management of remote workers, reorganization of corporate processes, conflicts with middle management and equipment costs.

1.1.7 - Outcomes for individuals

Benefits

A huge attention has been given to personal issues of teleworkers in comparison with other overlooked aspects.

Improved quality of worklife (Nilles; 1995; Ciacia, 2000): morale, stress (Di Nicola, 1999a; ITAC, 2000; Ciacia , 2000) personal control, work/family/personal life balance (Ciacia, 2000; Raghuram et al, 2000), avoid commute pressure (ITAC, 2000), personal freedom (Ciacia, 2000), chance to work in a quiet and unpolluted environment (Ciacia, 2000), choice of place, time and way of working (Ciacia, 2000), while saving time (Ciacia, 2000); avoid distractions and noise which produce rising tensions in workspaces (The Quest for quiet, 2001).
Gordon (1997) believes that telecommuting is one of the most powerful tools for getting the best out of people, meet their full potential (Verespej, 1994).
Telework can be fitted around other activities (Harrison, 1998) and can help parents spend more time with their children (Gordon, 1999) easing burden on working parents (Wells, 2001).
For many people the worst part of the work day is getting "to" work, it is costly, difficult, stressful and in some cases unsafe (Gordon, 1999).
Work-at-home staff has one tenth the attrition rate of its in-office workers (Wells, 2001).
Ford and Butts (1991) say that telecommuting programs can be an opportunity to work at home because of an illness, relocation, pregnancy, or other special event when the company does not want to lose the employee.

There are a few exceptions to these ever present list of benefits: cross-cultural studies by Hootsmans et al. (2001) give evidence that telecommuters travel a lot by car, have little time left for leisure, social and community-based activities.

Disadvantages

The literature reports also the other side of the coin: telecommuters work more (Wells, 2001) even during vacations (Lee, 2001) and there is even a danger of burnout: home workers need to set a time when workday starts and when stops (Lee, 2000; What is the future of telework? 2001).
Some are workaholic (Di Nicola, 1998). This fact may be due to their necessity to prove that they are being productive (Armour, quoting Litchfield, 2001) because control is carried out by results and some workers can become very anxious about their performance (Di Nicola, 1999b) especially in the pilot phase (Coffee, 1999).
They rate their work/life balance and life satisfaction lower (Wells, 2001); have worse relationships with their managers and co-workers (Wells, 2001); are less committed to their jobs (Wells, 2001).
Telework also causes more stress than other types of flexible work (Wells, 2001) maybe due to the "blurring barriers" (Armour, 2001) between their work and personal roles.

Telework hurts family life (Armour, 2001) external relationships (Ciacia, 2000), career advancement and benefits (Armour, 2001; Ciacia, 2000; Accart, 1997; Verespej, 1994; Lee, 2001), visibility (Ciacia, 2000).

Against these statements ITAC (2001) argues that teleworkers in well-managed programs have a chance to be promoted.

The worker may suffer from isolation (Ciacia, 2000; Di Nicola, 1999b) and lack of socialization (mainly single men and women) (Di Nicola, 1999b).
That is the reason why telework must be voluntary and reversible (Di Nicola, 1999b).

Instead Hootsmans et al. (2001) state that telecommuters are not totally isolated.

Other researches report problems with in-office colleagues (Verespej, 1994) "They begrudge at you – your boss, your colleagues, and everyone else who believes that working at home is somehow cheating" (Rayasam and Stevenson, 2001; Lee, 2001).
Some believe that telework makes home seem just like the office and non-work activities are crowded out (Coffee, 1999).

All literature discredits the common belief that telework can solve childcare problems: Gordon (2001) states "it is not a good idea to be babysitter and telecommuters simultaneously: it can happen sometimes only when it is absolutely unavoidable for reasons of medical needs" and childcare must be guaranteed (Quaedvlieg and Zimmermann, quoting Luithlen, 2000).
Also teleworking librarians like Padley (1994) question the advisability of telework for the purpose of solving childcare problems: one needs to work free of distraction and this is not possible while caring for children. The Australian Industrial Relation Commission (quoted by Di Nicola, 1998) in 1994 said that "teleworking is not a substitute for child care or any other form of dependant care".

1.1.8 - Factors hindering the success of telework

"Intanto tanti lavoratori ...imprigionati nel traffico ... sono costretti a migrazioni bibliche per andare a pigiar tasti su di un computer posto a mille chilometri di distanza, quando potrebbero farlo restandosene a casa propria"

["Meanwhile so many workers ... trapped in the traffic jam ... are subjected to biblical migrations only to press the keys of a PC placed many miles far away whereas they could do it from their home"]
(Di Nicola, 1999b)

The major obstacles are of cultural nature (Ciacia, 2000) and cultural norms are still very similar to those of the 1950s and 1960s and "the result is a conflict between employers who expect devotion to the business and a society that insists they also take on primary child-rearing responsibilities" (Lee, 2001).

These result in resistance (Wells, 2001; Di Nicola, 1999b ; Ciacia, 2000) to manage by results: "Out of sight means out of control" (ITAC, 2000; Ciacia, 2000; Setting ground rules,1994) and face-time equals productivity and commitment (Verespej, quoting Olmsted, 1994 ; Lee, 2001). According to Di Nicola (1999b) and Wells (2001) this attitude is a taylorist pattern.

Managers have a mental block about telework (Gordon, 1999) and fear related costs and disruptions (Rayasam and Stevenson, 2001; Ciacia, 2000); they believe that some employees need more supervision (Setting ground rules, 1994) .

The rapid advancement of new technologies ahead of worker familiarity and acceptance of them (ITAC, 2000) is considered a problem together with costs (Armour, 2001).

Others report major hindrances such lack of training (Wells, 2001; ITAC, 2000), lack of access to technical support (ITAC, 2000; Boyd, 2001), slow Internet access (Boyd, 2001; Armour, 2001), consistent need of data security measures (ITAC, 2000; Armour, 2001).

Ciacia from a different perspective points out the technological gap between Europe investments in ICTs which are much lower than in the USA and in Japan (Ciacia, 2000).

Many workers do not operate on a flexible schedule because of fear of job loss or recrimination (Verespej, 1994) and fear to lose the protection offered to in-office workers (Ciacia, 2000).

1.1.9 – Management and organizational problems

How to make it work

Guidelines

According to Rayasam and Stevenson (2001) telework needs structures, boundaries, clarity of purpose and expectations: hard and clear detailed guidelines (how often employees must come to the office, when face-to-face meetings must happen, who manages technical support, how logistical problems are addressed, which days he will telecommute, when he'll be available on the phone, how often he will check e-mail etc.) (Grensing-Pophal, 1999) and hold everybody to them (What is the future of telework? 2001; Wells, 2001).

Pilot

ITAC's e-Work Guide (Rayasam and Stevenson, 2001) suggests starting a pilot program with 10 to 15 employees for 90-120 days while Gordon (1999) advises to start with a pilot program to find the correct technical solution and then begin with a program involving at least 25-50 teleworkers.

Equipment

Rayasam and Stevenson (2001) suggest giving to telecommuters the best equipment because fixing old equipment would cost more.

Communication and information

This is a big issue to support telecommuters and keep them involved (Wells, 2001; Setting ground rules,1994; What is the future of telework? 2001) and in close contact with organizational events through information sharing, finding ways to enhance telecommuter visibility (Raghuram, Wiesenfeld and Batia, 2000; What is the future of telework? 2001).
Means of communication suggested are : e-mail, information portals (Kappe, 2001), hosted online chats, electronic newsletters, intranet and even one annual holiday party (Wells, 2001).

Training

Formal training programs are required both for managers and telecommuters (Wells, 2001; What is the future of telework? 2001). Grensing-Pophal (1999) points out that telecommuters have to understand what the supervisor's problems are going to be and vice versa.

Monitor and feed-back

Wells (2001) suggests setting up systems for monitoring productivity through results rather than hours worked and provide frequent and constructive feed-back but it may require new ways to review work (What is the future of telework? 2001).

Technology

Technology can make telework easier. Higher bandwidth connections, Voiceover Internet protocol, unified messaging, multimedia, wireless access, satellite and VPNs are suggested (What is the future of telework? 2001).

Security

Demaria (2001) recommends the use of firewalls, virus scanners, and virtual private network (VPN), a second phone line for business purpose. It is also very important to keep business

computer and personal computer separate (beware of kids!) and to educate home-based telecommuters about proper security measures.

Management

Gordon (1997) points out that the temptation to make a cut in pay can put employees back into an unequal-pay-for-equal-work situation.
It is advisable to create a written policy that explains what kinds of jobs are and aren't candidates for flexible arrangements in order to avoid being unfair to specific groups such as women and minorities (A to-do list for flex arrangements, 2001); to instruct telecommuters on the proper way to record their hours (A to-do list for flex arrangements, 2001); to write up an agreement including the expected performance (Setting ground rules,1994); to set specific deadlines for various projects (Setting ground rules,1994); to schedule times to discuss work in progress and assignments (Setting ground rules,1994); to make sure that a telecommuter's homeowners' insurance covers accidents that occur in the home office (Setting ground rules, 1994).

It is also important to recognize when a telework program is not working (What is the future of telework? 2001) causing to the organization loss on the investment made (Raghuram, Wiesenfeld, Batia, 2000) or the arrangement may be terminated if it no longer meets the company's needs (Wells, 2001).

Telework requires the greatest leap of faith for managers (Grensing-Pophal, 1999) who believe that telecommuting is going to put them out of business (Grensing-Pophal, 1999).
In a telework relationship time is not important: managers have to make the transition from managing time to managing by objectives (Grensing-Pophal, 1999).

Any organization is a system and telework affects it entirely (Gordon, 1999).

Ghosts in the office
Some problems stem from the fact that teleworkers are like ghosts – now you see them, now you don't (Grensing-Pophal, quoting Piskurich, 1999).

Supervisors should handle co-workers in the office stopping their jealousy, helping them to be supportive of the teleworkers and communicate better with them (Grensing-Pophal, quoting Piskurich, 1999).

Best amount of teleworking time
All researches agree that full-time telework is not the norm. It must be used as appropriate, whether one day a month or five days a week (ITAC, 2001).
The optimal form of home-based telework averages one to three days each week, "enabling the employee to do high-concentration work at home and then go into the office for more interactive parts of the job" (ITAC, 2001).

Picking the right people
Literature shows that telework is a privilege available only to employees whose work met certain standards (Meglio,1991; Black and Hyslop, 1994) and Gordon (1997) points out that telework is a job assignment, not a benefit or entitlement.

The best candidates are trustworthy employees who are able to work independently (What is the future of telework? 2001), self-motivated, able to consistently meet deadlines (Gordon 1997), focused, well-organized, with solid relationship with bosses and co-workers (Wells, 2001).

Rayasam and Stevenson (2001) believe that it is a common myth that telecommuters need to be more technologically self-sufficient; but some may need training in time-management skills (What is the future of telework? 2001).

Jobs best suited to telework

All studies agree that some jobs don't lend themselves to telework.

According to Campodall'Orto and Gori (2000) jobs best suited to distance work require a high degree of autonomy ; demand a low need of face-to-face communication; can be evaluated according to results.

For works which require face-to-face contact employers could allow employees to do administrative paperwork from home once a week (What is the future of telework? 2001).

Ford and Butts (1991) add two more categories which they believe are excellent candidates for a telework program: routine, high-quantity tasks as well as largely autonomous work requiring concentrated thought.

The key is to find jobs with at least a portion of the work that can be done away from the office, taking advantage of technology (ITAC, 2001) and ITAC (2001) goes as far as to say that "even hands-on job such as firefighting can benefit from telework " for example to write reports.

1.1.10 - Telework and gender

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*"most of the observations and plans for telework point in the direction
of teleworking for women who are homebound because of family duties
– women for word processing – as a cheap labor work force.
That sounds familiar"*
(Simon, 1997)

This issue would deserve more attention because telework , especially home-base work, is almost totally done by female workers.
Huws (1991) points out that in the 1980s the role of telework has been transformed from a solution to the problem of commuting into a solution to the problem of the breakdown of families. The teleworker is a woman who puts her family first: she is often deskilled, underpaid and peripheral to the core workforce (Huws, 1991).

Telwork seems to reinforce the gender division: Lee (2001) considers that female teleworkers are more overwhelmed than men because of family responsibilities and Melymuka (2001) defines women working in IT as "canary in the coal mine" due to their high stress levels and lack of work/life balance.
A number of female teleworkers talk about being "out of the loop" (Lee, 2001).

Women who telecommute report devoting fewer hours than men to their paid work (Hootsmans, 2001; Lee, 2001), sensing less control over their work time and having a better work-life balance (Lee, 2001).

Hootsmans et al. (2001) points out that generally female teleworkers have more difficulty to switch from the family to their teleworking, while male teleworkers have more problems the other way round.

According to Moon and Stanworth, (1997) among women homeworkers about 67% do clerical jobs. They have easily replaceable skills and they are "disguised wage workers" lacking health and safety protection.

1.1.11 - Ethical issues

"Telework and the technology that supports it are neutral –
they neither create job opportunities nor destroy them.
What they do is to present opportunities – it's up to us what we make of them"
(ETO, 2000 b)

According to Harrison (1998) there is the risk that isolated employees may be exploited in an environment where they can't easily get support from co-workers or unions.

One of the major hindrances to telework is the fact that "the more disconnected you are from your employer, the more vulnerable you are to layoff" (Siskos, 2002).

Another main reason of concern is reported by ETO (2000b) stating that : "We were concerned to dispel the illusion that telework is an effective remedy for the problems of economically depressed regions, and the equally dangerous illusion that telework is all about the country cottage and roses-round-the-door lifestyle. Offshore telework is about shifting jobs away from your own region, town or country".

Simon (1997) sharply points out that "outsourcing can be the first step to teleworking and is sometimes the reason for telework".

In most cases, according to Simon (1997), the legal framework is missing especially when teleworking involves international workforce.

1.2 - Task 1 – Part 2
Telework in information and library environment

Information workers are individuals whose primary economic activity involves the creation, processing, manipulation or distribution of information (Accart, quoting US Department of Transportation Work, 1997) and telework increasingly becomes and accepted method of work for them all over the world (Hootsmans et al., 2001).

According to Baker (2000) technological changes have modified librarian's role and responsibilities, the type of service offered and in addition "have obviated the need for rigid work styles" even though "they do not predetermine outcomes" (Karsten and Korte, 2001).

According to Sreenivasulu (2000) the role of traditional libraries is shifting towards digital activities (imaging technologies, markup language, multimedia indexing, user interface design) and in the virtual library "work is decentralized and telework the norm" (Wilson, 1995).

Nilles (1996/97) points out that information related activities require frequent periods of isolation, sometimes interrupted to communicate with others, but there is not much need of face-to-face communication which is often considered undesirable.

1.2.1 – From home-based work to telework (or e-work)?

Notwithstanding the given definition of telework it is quite difficult to split "home-based work" and "telework" at least at the very beginning of this innovative form of work.
Many experiences which share this borderline characteristic are however relevant for us: telework in fact relies mainly on ITCs but it is also an organizational issue.

Home-based work in information environment, following the literature, has not become telework all of a sudden but it has grown side by side with ITCs development. Library home-based work, a flexible work arrangement, became through new technological means completely feasible and deliverable through ITCs.

As Leysen and Pelzer (1996) state telecataloguing, the most widespread library activity from remote site, follows more than three decades of technological development.
Though information environment shows a long tradition in this field it seems useless and also difficult to separate library and information telework experiences.

Where does telework finish and where does e-work begin? These question are strictly related to another question: what new tasks has a virtual library to undertake?
In the information society there are no limits to the expansion of institutional library activities: in this competitive world libraries have to change rapidly and take on new activities in order to survive.

1.2.2 - Telework in information environment

Many information home-based workers are freelancers (Craumer and Marshall, 1997) and consultants, including part-timers and retired people (Blake, 1999).
This fact is reflected in the huge number of accounts of self-employed professional and consultants while the literature about teleworking library employees is so scarce.

Companies working in the information environment make frequent use of telework.
Crossaig, based in Scotland, (Blaxter, 1995; Blake 1999) provides services for electronic publishing to create electronic databases (e.g. Elsevier's Embase database) using advanced production processes. Teleworkers receive images of journal articles via ISDN links. "They extract bibliographic information, including the abstract, by selecting and dragging text from the article into the database record field, referring to the image of the pages as they go". The partial record is passed to a teleworking specialist indexer . The parts of the electronic record are combined and returned with the hard copy to the customer to be loaded onto the database.

Blake (1999) reports the accounts of self-employees and contractors who regularly telework: Phil Bradley (an Internet consultant, trainer, web designer), Lynne Clitheroe (a teleworker since 1998, she manages an enquiry service in London providing statistical information to large companies), Justus Krabshuis (since the mid-1970s teleworking translator and indexer for Elsevier he also provides online information for medicine and health and lives in the Highlands; then established a small business providing information brokerage and consultancy), Juliet Amissah (creating website for newspapers and engaged in editorial work on a newsletter).

A different account is given by Meglio (1991) in her fundamental and foreseeing article on telework at Information Access Company, a company responsible for indexing and abstracting articles from more than 4000 periodicals. Many employees indexers worked from home cumulating their work on a floppy disk and transmitting the data directly to the on-site computer or personally handing over their work.

The Electronic Scriptorium (Millar, 1996) – an employment of nuns and monks in monasteries across the USA providing retrospective conversion for many important US libraries – demonstrates that telecataloguing outputs can be very good if done competently. The Electronic Scriptorium is taking on new activities such Web pages design.

1.2.3 - Telework in library settings

The Ehemaliges Deutsches Bibliotheksinstitut (1997) states that ready telework solutions for libraries are not yet known and Schossau (2000) and Herzhauser (2000) point out that is quite sporadic in library environment and quite unknown in public libraries.

Library activities suitable for telework

The basic information unit of the future will be the information workers, not the library and they will be consultants, research team members, network gurus, teachers and trainers, resources managers and guides, information managers: all these jobs do not require a permanent presence in the library (Lett, 1994).

Undoubtedly remote work is already part of library activities such as providing patrons with reference services by e-mail (Putnam, 2001).

Dator (1993) goes as far as saying that he does not see much need for libraries in the sense of places and believes that librarianship can be practiced better from home than in a library.

Common sense and a sufficient knowledge of new technologies make clear which library activities are now best suited for teleworking arrangements : unfortunately experiences are not frequent and very seldom reported.

Obviously some library activities do not lend themselves to telework: those requiring staffing at public desk or handling of materials on site (Black and Hyslop, 1994).

Also some professionals are excluded: personnel who are for various reasons highly needed on site - trainees, technicians, managers and supervisor (Black and Hyslop, 1994).

According to Forster (1999) almost anything that doesn't require contact with physical copies seem suitable to telework.

Initial telework arrangement involved cataloguing (Meglio, 1991; Forster, 1999) indexing and abstracting (Meglio,1991; Browne (1996).

Suggested activities are: retrospective catalogue conversion (Mautrich, 1997; Leysen and Pelzer, 1996; Forster, 1999), original cataloguing (Leysen and Pelzer, 1996), online cataloguing (Mautrich, 1997), authority work (Leysen and Pelzer, 1996; Forster, 1999) database clean-up (Leysen and Pelzer, 1996) and maintenance (Forster, 1999).

Still cataloguing is present in the nowadays literature for the more recent digital resources (Eden, 2000) or Internet resources (Forster, 1999); OPAC update, including addition of URL's to existing records; URL links check and verification (Forster, 1999).

Blosser and Zhang (1996) describe applications in serials cataloguing that would enhance cataloguing processes from a remote location.

Leysen and Pelzer (1996) state that as electronic resources proliferate the prospect for telecataloguing become enhanced especially in creating links to serials holding from citation databases.

Many believe that telework will be used to realize digital library projects (Eden , 2000; Herzhauser, 2000; Deider, 1997), extensive scanning/imaging projects (Eden, 2000), Web page design and maintenance (Eden, 2000; Schneider, 2000; Putnam, 2001; Forster, 1999), database design (Eden, 2000), database production and assistance (Herzhauser, 2000).

Reference services seem to lend themselves very much to this innovation, mainly due to the fact that most of the resources are available electronically.
Methods by which requests for research are submitted and answered have also changed.
Librarians need not be in the library and calls can be forwarded automatically to their teleworking site, they can send e-mail and deliver documents in attachment (Baker, 2000).

Putnam suggests telework for querying online databases and compiling research reports (2001) and Herzhausers proposes a library Call-Centre (2000) to serve more libraries, more databases and other information sources through telework arrangements and also EDBI (2000) interestingly describes possible development of Call Centre activities which can provide different levels of information through teleworking librarians.

Others specify which kind of reference service is best suited for teleworking: on line searching (Meglio, 1991), database searching (Mautrich, 1997; Woodward, 1996), scientific information (Mautrich, 1997), consulting activities (Mautrich, 1997), electronic reference (Woodward, 1996), user information service (e.g. as a hotline) (Mautrich, 1997; Deider, 1997), live online reference (Schneider, 2000); addition of online chat to reference services (Eichler, 2000).

Other activities considered suitable for telelwork are: the creation of bibliographies/subject heading indexes (Mautrich, 1997), acquisitions (Mautrich, 1997); ordering/cancellations via the Internet (Forster, 1999), book selection (Meglio, 1991) and administration (Mautrich, 1997), evaluation of newspapers/journals (Mautrich, 1997; Deider, 1997), project writing (Schneider, 2000), creation of rough drafts, of academic papers (Mautrich, 1997), creation of PR materials (Mautrich, 1997), programming (Mautrich, 1997), special projects (Forster, 1999), updating of procedural manuals (Forster, 1999), word processing and data entry (Mautrich, 1997).

Also training seems to be appropriate for teleworking arrangements (Mautrich, 1997) which could provide time for Internet trainers to prepare their classes/slides/handouts (Forster, 1999).

Mautrich suggests also translation activities (Mautrich, 1997; Deider, 1997) which is justified by Dorman's (2001) statement that US libraries are offering more international information and more multilingual services.

Technical services work, according to Klepfer (1997), lends itself very well to telecommuting.

Folger (1997) believes that videoconferencing now used to provide reference services to students located in the campus could also be a good mean for telecommuting librarians.

Teleconferencing (Simon, 1997) implies that telework will become a vehicle to achieve the best results with cooperative efforts (Putnam, 2001).

According to Putnam (2001) also discussion list management could benefit from telework.

Simon (1997) in her precious article points out that "in the context of lifelong learning teleworking will play a great role, but should be embedded in the right interface with people and caring institutions".

Other applications

Black and Hyslop (1994) suggest using telework to activate short time contracts with individual skilled in a specific cataloguing language or format; they also suggest cooperation, through telecommuting, between academic libraries to share cataloguing expertise: telecommuting arrangements could be both an alternative to and an example of outsourcing.

Deider (1997) believes that telework will be easily managed by the young. In times of structural unemployment education and training are fundamental in preparing for a next economic cycle.
Libraries are needed as educational institutions providing telework positions for users and for library staff as well (Deider, 1997).

Simon (1997) sharply wonders whether deskilled activities such word processing justify the investments required and whether creative telework will provide a better life for everyone.

Possible outcomes

What Leysen and Pelzer (1996) point out, merely in relation to telecataloguing, can be referred to telework in general: the success of telework in the future may depend on the success of other alternatives.
Outsourcing certain types of materials can be a solution to reallocate staff to other area of the library which have more immediate priority.

Libraries best suited to telework arrangements

Mautrich (1997) and Woodward (1996) believe that telework fits better in large and middle sized libraries where the work distribution facilitates the management of delimited tasks.

 Herzhauser (2000) argues against this idea and says that the fragmentation of library workflows among many employees does not allow productive teleworking arrangements. He believes that small libraries with limited number of personnel who take on all working procedures are best suited for telework. According to Herzhauser small libraries could also take advantage from telework which allows the extension of opening hours for some services.

Library experiences: cases and arrangements

Quite often teleworking arrangements in libraries took place in informal ways. This fact has caused a lack of information in the literature. Telework arrangements often emerge only in mailing lists due to the necessity for teleworking librarians to exchange information and experiences.
AUTOCAT archives contain a lot of messages dealing with telework issue.

The majority of messages dates back to the years 1990-1995 and since the end of the 1990s AUTOCAT messages dealing with telework are mainly written by contractors and consultants, but there are still messages written by library employees.

As Eden (1996) states telecommuting, telecataloguing, remote cataloguing begun to emerge in the library environment in the midst of 1990s but we go back a little including some work-at-home experiences, commonly defined as "telecommuting" in US, according to an extensive definition which includes any flexible form of work which allows work without commuting.

1981
In 1981 at the Boulder Public Library (US) as reported by Luce and Hartman (1984) telecommuting managers and supporting personnel spent one day a week away from the office to establish pre-experiment baseline data for comparison with the quantitative and qualitative results of the experiment. Their activities at home were: planning, research, professional reading.

1984
Stankowski (1994) reports that at Purdue University Calumet Library (Indiana, US) in 1984 the department head did for six months the retrospective conversion from catalogue cards connecting from her modem at home to OCLC.

1990
In 1990 American libraries had employees who regularly worked at home, more commonly in academic libraries (Blake, quoting Heinz, 1999)

"Library Personnel News" survey in 1990 showed that telecommuting and home work were not prevalent features of library staffing practices (At-home work…, 1990). Results given by 60 libraries were analysed. Only 20% had employees who sometimes worked at home during regular work hours. Academic libraries were more like to allow at-home work than public libraries. Most common tasks done at home were: writing, word processing, cataloguing, data entry, collection development, reviewing journals, ordering, program planning, scheduling.

Since 1990 the National Agriculture Library had adopted the "Flexiplace" program involving indexers and public services librarians in working from home. Indexing staff worked 2-4 days at home. Indexing system was paper-based so no equipment was provided. Information services and reference services staff participated but not as extensively as indexers. Work at home included publications, special projects, committee work, mass mailings, acquisition and video preview. At that time online searching was not taken home because of tight budgets (Black and Hyslop, 1994).
A recent article by the National Agriculture Library (2001) goes as far as to say that due to the need of more physical space telecommuting and other forms of flexible work are still going on in order to reduce the number of staff present at one time.

1992
In 1992 Pinder, quoted by Blake (1999) stated that "telework was virtually unheard of in public libraries".

Norman (1993) with her article published in "Library Association Record" describes the experience of Louise Graham, the first teleworker of the National Library of Scotland. Mrs Graham carried out quality control work on library computerized catalogue.

1993
 Levy (1993), authority control coordinator at the Michigan State University Libraries, telecommuted and did authority work.

Vastine (1993; 1994), catalogue librarian, University of South Florida, Tampa, worked at home two days per week. She did subject cataloguing for all theses and dissertations originating from University of South Florida, original cataloguing assigning call numbers and subject headings, authority work.

Gonzalez (1993), cataloguer at the University of Texas at Austin, teleworked and did database cleanup in the local online catalogue, revision, editing of others' cataloguing and retrospective conversion.

Graham (1993), reference librarian at Swarthmore College Library (PA). was able to do database cleanup from home and resolve discrepancies and inconsistencies online.

According to the messages of Leathem (1994) and Weiss (1994), systems librarian at the National Library of Medicine, there is evidence that some librarians of that library worked 2 to 3 days at home.

1994
In 1994 Black and Hyslop (1994; 1995; 1996; Black, 2001) started their experience at the Michigan State University Libraries, where a telecommuting program for original cataloguing began in 1994 and came to a close in 2001. This experience took place during an early stage of development of ITCs so home-based cataloguers had to create record off line and from the office they uploaded the records from disk into the online OCLC file (cost of dial-access to OCLC was prohibitive).
They only occasionally did on-line searches in OCLC. They were connected to the library online catalogue, other online catalogues, gopher service and e-mail. The cataloguing process was fragmented because they had to go back to work to complete their records with subject headings and classification numbers.
Since 1995 through an additional Gateway access telecommuters were able to catalogue directly into OCLC.

Black and Hyslop (1996) underline the fact that this was not a "pseudo-telecommuting" only because there was no remote transfer of data. Instead they believe that work was being accomplished from an off-campus site, using telephone links to on-campus and more remote systems. Original cataloguing included books and microforms (which required the addition of a microfiche reader at the home-office). Uncatalogued materials were carried home each week by the telecommuter and were not absent from the library for long (Black and Hyslop, 1995).

In 1994 Eden (2000) started to work for the National Engineering Education Delivery System Project (NEEDS) experimenting remote cataloguing of digital resources for the development of computer-based instructional material, or groupware. NEEDS is a distributed database comprised of computer courseware modules. NEEDS cataloguing was a two-fold process: catalogue records were created with a local sw and then sent to the University of California at Berkeley's who mounted the record in HTML format. Eden provided descriptive and semantic cataloguing for computer courseware (created by NEEDS engineering faculty) and maintaining quality control of database.

Padley (1994), head of the adaptive cataloguing, University Libraries, University of California, teleworked resolving serials title change problems in connection with barcoding, ensuring that items were attached to the correct title.

Urbanski (1994), Carpenter Library, University of North Florida, worked at home doing authority work and writing various procedures.

Campbell and Fround (1995) give an account of the teleworking experience of a member of the senior management team from Somerset's Library Service. She prepared written reports, correspondence, planning new services, projects and worked a lot on the telephone.

1995
In 1995 the Edinburgh Engineering Virtual Library (EEVL) project started to create a distributed database. Harrison (1998), a part-time member of the EEVL worked 14 hours a week at home and further 3 hours at Heriot-Watt University Library where the EEVL project was based.
EEVL has used telework since the start of the project with subject specialist librarians from 5 university in UK and a teleworker in New Zealand.
Harrison reviewed Internet sites selecting them for inclusion in the virtual library on the basis of their content, quality and availability. She wrote descriptions of sites classified them and also checked descriptions and classification supplied by the specialist librarians. She also checked monthly all the links.
Half of the three weekly hours in the office were devoted to attending meetings and the rest to receiving training.

Blake (1999) reports the three-month contract for a cataloguers at the University of London Library for a retro-conversion project from catalogue cards. The teleworker had to take the catalogue cards backwards and forwards. Blake does not specify when this arrangement took place, she points out that the arrangement was set up in order to overcome workspace problems for staff. The teleworker spent three hours a week in the library and telecatalogued 12 hours per week via online access to the library system.

1996
In 1996 – as Frank et al. (1997) report – a sport event like Olympic games gave rise to teleworking arrangements for library personnel of the Georgia Institute of Technology in Atlanta. While librarians in technical services had to navigate a series of security checkpoints to get to work, the library personnel of the Corporate Research Services Department telecommuted and conducted online literature searches, worked on collection development and found relevant Web sites for the library's homepage.

Klepfer (1997), specialist in the Acquisition Dipartment of Reed Library (US), freelance writer and employee of the journal "Library Mosaics" had the opportunity to experiment teleworking. She reports that Reed Library developed forms for the implementation of the "Work Away" project

providing memo in which to describe the project, a time log, a bi-weekly report form and a final evaluation form.

1997
In 1997 Dana Keren (1999; 2000) librarian at the University of Toronto Library, started her telecataloguing experience still going on in 2000. Material was delivered to her on a weekly basis via courier.

Mautrich (1997) and Deider (1997) report the implementation of a telework position at the Library Service Center of Baden Wűrtemberg at Konstanz for the project of retrospective catalogue conversion for selected art and museum libraries.

Quaedvlieg and Zimmermann (2000) describe the teleworking experience at the Friedrich-Ebert-Stiftung, the telework agreement and the workers' council viewpoint. The Friedrich-Ebert-Foundation at that time was preparing to take on a telework project participating the "Verteilte Digitale Fachbibliothek" project which aims to create a distributed specialized digital library.

Quaedvlieg and Zimmermann (2000) refer about the teleworking experience which has started in 1999 at the Hans-Blöckler-Stiftung to provide online documentation to the work "Chronologie der deutschen Gewerksschaftsbewegung von den Anfängen bis 1918" ["Chronology of the German trade unione movement"] by Dieter Schuster.
(URL: http://library.fes.de/fulltext/bibliothek/tit00148/00148toc.htm).
An external teleworking contractor created an archive of one thousand manuscripts, indexes of persons, places and categories, with links to full text publication.

Schossau (2000) describes her teleworking experience at the Zentral- und Landesbibliothek Berlin. At home she did retrospective conversion from catalogue cards of complex multiple-volume library documents with classification of items. Online searches of Deutsche Bibliographie helped her to complete her task. She found the advantages of flexible time, quiet working conditions and a high level of responsibility – and it was not isolating.

Lorenz (2000) describes the introduction of telework at the Fachinformationszentrum of Karlsruhe which took place with a co-operative agreement between management and the workers' council to protect workers' rights. The FIZ Karlsruhe creates and sells databases of technological and scientific interest. Telework arrangements were implemented at the help-desk which requires a round the clock assistance to patrons. The original aim was to expand the help-desk opening hours providing also a help to employees who had family problems. FIZ has opted for an alternate telework arrangement - with 2 days at the office. This arrangement, according to Lorenz, limits telework well known disadvantages. At FIZ telework is a normal form of work which cannot become the rule and only eight FIZ workers out of two hundred telework. The system was expensive to install but clients receive an improved service: Lorenz in his sensible article "Weder glorifizieren noch verteufeln" ["Neither glorify nor demonize"] demonstrates that the outcomes of telework depend on the ability to manage it in a reasonable way.

Kawczynski, Meye and Naumann (2000) describe the teleworking experience at the University Library of the Frei Universität Berlin in the creation of the University Bibliography, which involves a lot of work to receive information about the publication of 450 University Institutions including dissertations. Records are gathered and included in the University database "Allegro" to produce every year 900 pages of bibliography.

Every volume takes 12 months to be prepared. Two librarians right after they maternity leave started to telework from home. Everything worked well except for the slow connecting times. The article includes a very interesting "fictional" interview with the two librarians.

2000

The George Washington University Medical Center (Washington, DC) as reported by Thompson (2001), decided to hire a former system librarian to let her telework from Alaska.
She maintained the Integrated Library System, troubleshoot ILS related problems, implemented new ILS based services and supported and trained other library and staff members on the system. She worked 3.75 hours/day in the morning to optimise communication with staff and up to 1.5 hours a week in the evening to do the system maintenance requiring the workstation client to be down.

Jaskowski, Sobey, and Sutton (2001) – paraprofessionals at the University of Central Florida – report their teleworking experience "coast to coast" of the USA, from Seattle (Washington) to Orlando (Florida). This agreement demonstrated that telework was a "viable solution for evaluating and cataloguing electronic resources, performing authority work, and assuring bibliographic maintenance".

2001

Kruger and Lochner (2001) refer of the telecommuting arrangement in RMB Library in 2001. A part of the tasks done in the library could continue from home: research (80%), book and journal orders, electronic downloads and press clipping services; other tasks could not continue from home: cataloguing, library tours, physical backup (other staff on leave, helping out etc.) and new tasks could be added: maintenance of catalogue validation lists, increase coverage of press alerting services, development of an environmental scanning system.

At least one experimental study

Fulton (2000) examines the impact of telework on the work done by information professional through combined methods of participants observation, interviews and diaries.
Fulton investigates the work of twenty pairs of teleworking and at-office librarians and information professionals performing a variety of functions (administration, consulting services, traditional library services).

The study reveals that although teleworking and at-office workers performed similar amounts of work, work processes differed between the two groups. Teleworkers were often missing the information necessary to complete tasks at home and tried to cope by repeating parts of tasks at home and by dividing tasks according to available resources.
Teleworkers also "distinguished between home and central office work tasks…[and] reserved some tasks for the central office"(Fulton, 2000).

According to Fulton (2000) "telework could become the domain of simplified tasks, thus contributing to a deskilling of work".
A heavy burden was also placed on co-workers in the office who had to compensate for absent teleworking colleagues by performing additional work or by helping teleworkers locate information.

Benefits of telework in libraries

Deider (1997) says that "a general pro or con of telework, specifically for libraries, cannot be determined; however from an economic point of view and even for public administration the pro's seem to outweight the con's".

Schneider (2000) believes that telework offers "the potential to help libraries broaden the time, place and manner of traditional services such as reference" services which can be offered before or after library hours.
Also Putnam (2001) points out that a home-base information professional can staff a virtual reference desk long after the physical library is closed.

Eichler (2000) reports about the addition of online chat to reference services in Lippincott Library "one of the potentials we are beginning to explore is its use for telecommuting. We know that heavy use of our online system is made after 9 p.m. when we close our professional reference service. Shifting out hours of service to later in the day and allowing librarians to respond to questions from their homes would better meet the needs of our users" (Eichler, 2000).

Kruger and Lochner (2001) point out improved service-flexibility in working hours, increase availability to the company and clients, not restricted to so-called office hours while Simon (1997) argues that "longer opening hours of offices and institutions…, the integration of telework into our daily dozen … could help and support everyone of us tremendously – but it should be handled with care".

At the National Agricultural Library (2001) telework has been used for the indexing of journal articles (450.000 a year) and through flexibility notable advances have been made in services such database creation.

Norman (1993) points out possible training aspects of telework which can be used to learn IT skills prior to a return to normal working.

Also space problems for staff in the library can be solved with telework (Blake, 1999; National Agricultural Library, 2001).

Particularities of telework in libraries

Temporary removal of items
Temporary removal of items from the library site did not appear to be a problem (Leysen and Pelzer, 1996).

Teleworkers' status and compensation
Teleworkers status generally remain just the same as in office co-workers.
Regardless of the work location, the employee has generally the same compensation during the performance at the regular office or the alternate worksite (Fortser, 1999; Meglio, 1991)

Alternate telework

All literature show that the best telework realizations schedule alternate teleworking agreements with some differences according to library needs.

According to Meglio (1991) an employee's time might easily be divided between work on-site and at home.

In the National Agricultural Library all staff reported to work in the library on wednesday (Black and Hyslop, 1994).

The Zentral – und Landesbibliothek Berlin (Schossau, 2000) and the Freie Universität Berlin (Kawczynski, Meye and Naumann, 2000) have chosen alternate teleworking schedules with success.

Communication

Communication is very important: at the National Agricultural Library focus group and a newsletter helped (Black and Hyslop, 1994).

Evaluation and feed back

Meglio (1991) suggests establishing qualitative and quantitative standards, regular feed back, performance reviews and also establish criteria for on-site and at-home work.

Schossau (2000) demonstrates that a comparison between the productivity in the office and at home activities can help.

Forster (1999), gathering many information, points out that a plan worked out by supervisors, is needed before starting telework ; the work must be measurable in terms of quantity and quality; evalutation should be done through weekly meetings.

Teleworkers behaviour

Meglio (1991) points out that "there is an additional incentive to improve because continued problems could mean a permanent return to the office"

Levels of staff participanting

Another question raised by teleworking in libraries is whether both professional and paraprofessional work might be adaptable to teleworking.

Meglio (1991) believes that both works are apt to this innovation and Forster (1999) summarising INNOPAC mailing list opinions indicates both professional and support staff.

Costs and equipment

They depend on the type of work assigned to teleworkers. Michigan State University Library provided teleworkers with a microfiche reader at the home-office in order to catalogue microforms (Black and Hyslop, 1995).

Generally equipment is provided by the employer and include at least a portable PC, sometimes also printer, fax and any other helpful equipment. Costs are generally minimal (Forster, 1999).

Refund of telecommunication costs

Generally the original telephone bill is submitted together with a monthly invoice for the hours worked online. The Library checks the connection time with the invoice and pays the invoice. The teleworker is responsible for paying the telephone bill (Forster, 1999).

Some preparation work is done off-line so there usually will not be an exact match between number of hours worked and number of online hours as appear in the bill (Forster, 1999).

Support

Also support must be guaranteed to telewokers and Miglio (1991) suggests the availability of an editorial systems analyst and a lead supervisor.

Down time

Occasional troubles with connections are reported (Forster, 1999). Emergencies that are expected to continue for all or most or of the workday can be addressed by granting leave, rescheduling the work, or having the employee report to the regular worksite.

Sick time

Leave administration depend on the emploee's work schedule, not the worksite (Forster, 1999).

Working times

They depend on teleworking agreement and may be quite different.

In the Friedrich-Ebert-Stiftung - as reported by Quaedvlieg and Zimmermann (2000) - telework activities are not subject to defined time bands and teleworkers can work whenever they can.

Instead some restrictions are present in the telework arrangements at the Freie Universität Berlin (Kawczynski, Meye and Naumann, 2000) where teleworkers complain for not being allowed to work on Sundays.

Co-workers

It is also reported that morale problems might arise for remaining staff (Forster, 1999) mainly due to increased workload.

Teleworking librarians

In the 1980s Burrington (1987) pointed out that in UK "women dominate librarianship numerically" and accordingly Fulton reports that "teleworkers were most often women who were married and had children living with them" (Fulton, 2000).

In the archives of the mailing list AUTOCAT some messages explain the main reasons leading librarians to telework: special needs due to health conditions (Zhang, 1998), to recuperate after and illness (Levy, 1993; Urbanski, 1994) or home care for parents, children, husband/wife (Urbanski, 1994).

There is evidence (Marchant, 2000) that many librarians do extra work in the evening and at the week end by teleworking (e.g. to provide Web research services).

Telework in libraries and globalisation

Herzhauser (2000) believes that telework in library environment, through outsourcing, could lead to dumping and exploiting workforce of countries where labour has a low cost, so causing unemployment increase in one's own country.

This outcome seems quite impossible to avoid because of globalisation and Quaedvlieg and Zimmermann (2000) underline the fact that many telephone calls from Asian entrepreneurs reach German libraries in order to gain whole cycle of activities.

They also underline the fact that mass conversions of bibliographic data will never again be realized though telework or in the library premises and insist on the need to continue providing workers with social and welfare protection.

Herzhauser (2000) believes that library availability to risk the creation of teleworking jobs could also enhance new library job activities and guarantee library existence in the future.

Deider (1997) underlies the mottos of the entrepreneur Ford "The most important product of an industrial enterprise are its employees" and points out that "one ought to avoid too much dependency on service providers as a result of sinking professional competence caused by a lack of company, or respectively, library professionals".

Conclusions

"People – one of the fundamental parts of a successful organization –
thrive and grow in a positive environment"
(Meglio, 1991)

All in all it seems that telework is expanding, most teleworkers and companies are happy with this flexible form of work. It looks like the universal panacea, and yet it is not so widespread, especially in library environment.

Differently from USA, telework in Italy is not included in national or local plan to fight pollution and mass media ignore it.

It is also clear that nearly all the researches focused on telework have to be considered cautiously, as demonstrated by this rich but often only anecdotal literature.

Telework is quite a difficult issue to deal with nowadays: beside social, management and individual impact it involves burning issues such work evolution, labour market development, technological revolution, globalisation, outsourcing and dumping.

In library environment, where telework embraces and develops side by side any form of ICTs development, it is almost unknown, seldom implemented – and often only in informal ways - and rarely reported.

I have tried to give space to the most relevant aspects of telework which can have a strong impact upon libraries.

Surely I have left out relevant facts and sometime I might have overemphasized aspects which I care most for (environment).

Telework could really help us all to live and work better and could also help "create a work environment that lets employees achieve their objectives while meeting those of the employers" Meglio (1991).

2 -Task 2 - Critical account of strategies and sources used in the literature review

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"Scholarship is as much a matter of knowing
what not to read as of knowing what to read"
(Ezzo and Perez, quoting Frye, 2000)

This literature review aims to investigate research conducted about telework in library environment expecially home-based alternate telework, the most common among female librarians with a general introductory review of literature about telework and hints to its use in information environments.

My interest in telework in libraries was originated by a review by Sardo (2001) to Blake's fundamental work "Teleworking for library and information professionals" and published in the Italian "Bollettino AIB".

A personal source of interest for this issue is also an ongoing experience of alternate home-based telework going on in the University of Verona which is also involving four colleague librarians.

Apart from Blake's work I knew nothing about telework in general and I felt rather curious to learn something about its arrangement in library settings but it seemed quite difficult to start due to the two-folded nature of the issue: telework in general, a very complex issue characterized by information overload and telework in library environment, with a tiny bibliography, hard to find and access.

At the very beginning I realized that Simon (1997) was quite true when she said that "in getting involved with [this] topic, one will be short of information and overwhelmed by the mass of information at the same time … The information … can be roughly classified as official and semi-official papers, personal experiences and aspects, ideas, and future-oriented statements. But practical experience on an organizational basis is lacking as well as in research … research and experiments on a solid base and sufficient samples are missing".
Simon (1997) underlines also the fact that the small samples available do not allow to draw general conclusions and results are "too scarce on the one hand and too general on the other".

Which is all true: thousands of Web pages, journal articles, consultants advertisments, companies offering help and training to learn how to telecommute: a huge amount of information overload devoted to telework. Besides the fact that the study of telework involves many disciplines, methodologies and big issues (the development of ICTs, globalisation, virtual organizations and economic issues).

For the other aspect, related to telework in library setting, right at the beginning I realized that I would have had many problems to find sources and particularly relevant ones.
Eden's (2000) article warned me saying that "telecommuting and remote cataloguing in the library environment have only recently entered the literature". In fact I found only hints, very fragmented information. Things were getting quite difficult!

And to make a long story short this is the research path I have followed.

General limits

In the part devoted to telework I preferred to access material of general interest relevant for this study independently from literature related to library settings of telework. At the same time I just wanted to explore the major aspects of telework, those most relevant to library settings. I decided to leave out legal, contractual and union issues which are generated by different organizational, local, national and international legislations and other aspects.

Time limits

I have restricted the research from 1980. Time is a intrinsic issue: telework is feasible only through adequate ICTs which found a widespread use in the last 10-15 years.

I looked for any library related experience starting from the 80s, the prehistory of telework and library home-based work.

Even though the experiences of telework conducted in libraries in the 1980s and at the beginning of 1990s, due to ICTs revolution, look obsolete they are however relevant to understand the evolution of work and its organization in libraries.

Key words

I had to use a lot of different key words: telework, teleworking, telecommuting, alternative work sites, distance workers, work-at-home, electronic homework, electronic cottage, networking, distance work, e-work, flexi-place.

More library terminology combined with the previous key words: remote reference services, remote cataloging/cataloguing (the English/English American forms).

Searching the Web also "Telearbeit" or "Teleheimarbeit" are important keywords.

Country limits

The relatively small findings related to telework in libraries didn't allow me to set country limits to the research.

All experiences and studies of telework in libraries were relevant for my literature review.

Most of the literature was written in Germany and in the US where experiences and research seem to be quite advanced also due to the introduction of telework through Federal laws, or, at least these areas are the only ones where studies, experiences and plans have been written.

Much telework is done in an informal way, which means that there isn't much information about it.

Languages

Unfortunately research reports in this field are quite limited so I gathered information wherever I could find some without setting language or access limits. I was lucky enough to find documents written mainly in English, Italian and German.

I had the surprise to find some very interesting articles in German, an hindrance which obliged me to start the battle on another front and find time for the translation. The documents were quite invaluable and I needed them.

Unfortunately I don't speak fluent German and only major German studies have been included.

Strategy and sources: splitting the research in two parts

This work from the very beginning had to be split in two parts which needed different research strategies.
For Part 1 the main problem was therefore to discard superfluous and irrelevant materials.
Lots of consultants advertise their activity and publish rubbish under the disguise of scientific articles. I have always found a long and monotonous repetition of the same old list of pros and cons related to telework which goes on and on unchanged and never tested since the 1980s.
It was quite difficult to escape this trap mainly in Internet search.

I found myself in the typical mess of information overload : books, article, Web pages of any type.

Another huge effort was needed to discard materials which were quite interesting but too peculiar and detailed for the introductory goal of the first part of my literature review.

Instead for Part 2 I had to strive to find and also to access valuable information.
Often when at last I got the articles I found out that even important titles were often cheating and the content was absolutely useless for my purpose.

The first step was to find the "right" definition of "telework". Amazingly I found at least four or five of them.

I searched BIB-CD, published by the Italian Library Association with no hits, except the mentioned article by Sardo: telework in libraries does not exist.

Searching local OPAC I was able to find a few Italian monographs about telework and notwithstanding their rich and many discipline related content they do not even contain a hint to libraries nor do other successful American and English books, according to their reviewers.

Sardo in her review correctly pointed out that Blake did not mention any teleworking experiences in library setting. In fact Black's work reports a lot about telework in general, telework in information environment and not much about telework in libraries.
This is the reason why this relevant work – my known reference - did not help me much, except for the bibliography containing mainly articles and official Web sites, but very few were useful.

My research went on using search engine and directories; bibliographic and source databases: LISA, which was very helpful, Social Science Index, Aslib Current contents awareness, Emerald, JSTOR, Business Source Elite.
I also found very interesting articles on the Internet, such as Leysen and Pelzer (1996) which helped me find the AUTOCAT mailing list.

I started to ask for the journal articles through the Document Delivery service and meanwhile I explored the Web using, the official sites of telework (ITAC, Telework '96, Telework '98, Telework'2001, ETO, Sito italiano del telelavoro with all their links) and then local, national OPAC.

I subscribed to a couple of mailing lists, ETO (European Telework Online) and AUTOCAT (Library cataloging and authorities discussion group at University of Buffalo, The State University of New York), mainly to search their archives. Since then I only received a few useless messages

but the archives of AUTOCAT have been useful to investigate the existence of telework in libraries in US in the 1990s and also the needs and problems of US telecommuting librarians.

I had some trouble trying to get important resources from the Document Delivery and kept waiting for articles with titles that, as usual, promised a wealth of information and provided only hints.
As soon as I found an article I examined its bibliography in order to find new titles to ask through the Document Delivery.

At the same time I had to discard materials for part 1, search desperately for part 2 and translate German articles as soon as I could get them.

German studies describe with many details teleworking experiences in libraries and, differently from US and UK studies, pay much attention to legal and welfare issues especially in relation to possible development of telework in a globalised economy.

Serendipity, bibliographic details provided by interesting articles helped me widen the research.

I decided to include a "humour section" firstly because I felt it was time to put a smiling end to this long literature review and then because I believe that the publication of cartoons related to telework issue in reviews like "Harvard business review" demonstrates that telework is already part of everyday life, at least in the US.

All in all, with the exception of some very well written articles explaining telework proposals, arrangements and experimental studies, one feels that everything is a long series of repetitions never supported by evidence and studies.

I believe that good reports about telework arrangements in libraries might help its diffusion.

…. and now let's laugh a little bit
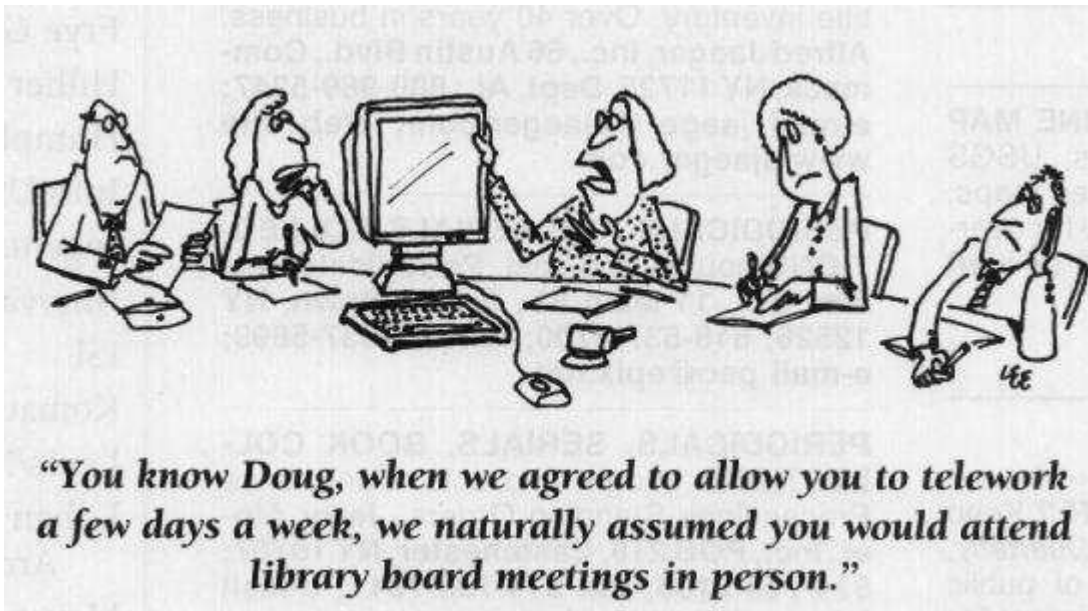
3 - TELEWORK AND HUMOUR

"Here is Frisbee, doing his favorite telework,
which is sleeping on my monitor"
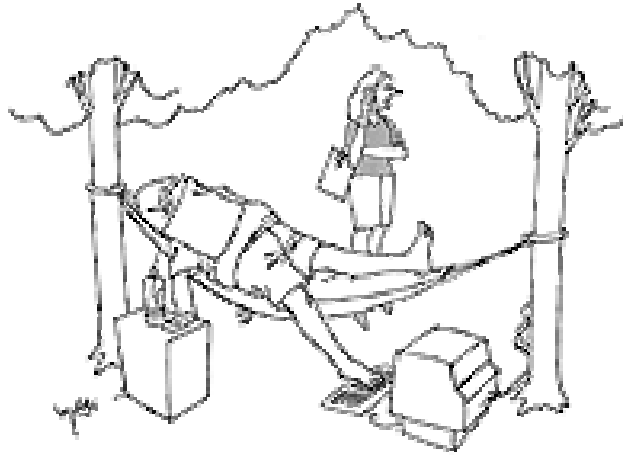(Langhoff, 2002)

Telework and pets

Also pets have their part in teleworking success and "one telecommuter could not concentrate while at home because his dog, who was used to his master playing with him when at home, barked too much" (Ellison, quoting Wells, 1999).

Telework and refrigerators

Teleworking librarians have to be careful because "novel problems can occur – some have gained too much weight because of their proximity to the refrigerator" (Meglio, 1991).

"You know Doug, when we agreed to allow you to telework a few days a week, we naturally assumed you would attend library board meetings in person."

*(*Cartoon from *American libraries*, 33 (4), 2002, p. 124)

"Well, technically he's telecommuting"
(Harbaugh,D.)

(Dutkiewicz, 1999)

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