INNOVATION RESEARCH WORKING GROUP

j,

INNOVATION IN EMPLOYMENT: A TELEWORK EXPERIMENT IN ONTARIO

by

Işık Urla Zeytinoğlu School of Business McMaster University Hamilton, Canada, L8S 4M4

Innovation Research Working Group WORKING PAPER NO. 26

August 1993





MICHAEL G. Degroote SCHOOL OF BUSINESS

INNIS LIBRARY

NON-CHRCULATING

INNOVATION IN EMPLOYMENT:

A TELEWORK EXPERIMENT IN ONTARIO*

BY

IŞIK URLA ZEYTİNOĞLU

Associate Professor of industrial Relations McMaster University Michael G. DeGroote School of Business Hamilton, ON L8S 4M4 Tel.: (416) 525 9140, ext. 3957 Fax: (416) 527 0100 E-Mail: zeytino@mcmaster.ca

Abstract

This paper examines the employee - employer relations in telework. It is an exploratory study focusing on the experiences of an organization that employ teleworkers. Telework refers to work done at a location away from the central office / production facilities of the employer. The work is primarily conducted by using telecommunication technology. The study examines advantages and disadvantages of telework for the employer, the process of planning and setting up telework, and human resources policies on telework.

* This study was supported by the Arts Research Board of McMaster University. I would like to thank Laura Knuckle and Stephanie Jones for their research assistance, Alfred U. Oakie for his assistance in earlier stages of this study and the managers in the organization studied here for their time and assistance.

** An earlier version of this paper was presented at the Annual Meeting, Canadian Industrial Relations Association, June 5, 1993, Ottawa.

INNOVATION IN EMPLOYMENT:

1

A TELEWORK EXPERIMENT IN ONTARIO

In 1980s the traditional employment relations started to change drastically. In the newly created jobs the norm full-time, continuous employment in the organizations left its place to several new forms of employment. With the wide use of personal computers and other telecommunication devices, an innovation in employment - telework - appeared in companies. This paper examines employee and employer relations in telework. This is an exploratory study focusing on the experiences of an organization that employ teleworkers.

There are many definitions for telework. They all rely on three factors: the organization of work, the location of work, and the use of technology (DiMartino & Wirth 1990). In this study, telework refers to work done at a location away from the central office/ production facilities of the employer. The work is conducted by using telecommunication technology such as computers, telephone, fax machines, or other equipment that connects the employee to the central location of the employer. Within this broad definition, telework may be performed `online' (with direct computer linkage) or `off-line' (each individual using the equipment separately with no connection). Teleworkers might be on the company's payroll or self-employed.

The "telework" as a terminology is used interchangeably with "telecommuting" or "flexiplace." Telecommuting refers to computer work done by a company employee who substitutes the computer for the commute (Christensen 1988a). This terminology is restrictive in the sense that it assumes commuting as the most important aspect of telework jobs. Flexiplace gives emphasis to the location of the work implying that workplace can be anyplace the worker can work in; it does not have to be in the company premises. In my study I prefer to use `telework' to show the significance of the telecommunications technology in the creation and existence of the work.

The Literature on Telework

Academics and practitioners tend to agree on the usefulness of the core-periphery theory as a framework for telework (Christensen 1988a, Hagen, Jenson and Reddy 1988, Zeytinoğlu 1992a & b). According to the core - periphery theory (Atkinson 1987) full-time workers [located in the company premises] are the `core' and nonstandard employees (including teleworkers) are the `periphery'. The core - periphery theory is also called the `primary - secondary', or the `contingency' theory. The periphery generally gives the employer flexibility and savings in labour costs.

Studies on telework are mostly from the U.S. and Europe. Solomon and Templer's (1989 & 1991) studies are the only other ones in Canada that examines the telework from the labour demand point of view. Solomon and Templer show that there is a core of Canadian firms active or interested in telework. The authors provide important human resources implications of telework in Canada and continue with a recommendation to conduct detailed qualitative studies of teleworking organizations. In a way, my study pursues what they have recommended.

Employee Status. The literature on the employee - employer relations on telework provide a rich discussion of who is an employee who is an independent contractor (Oldfield 1991, Miller 1988). Teleworkers might be employees of the organization, self employed (independent contractors) or employees of another organization. The definition of employee status is important in terms of the employer's responsibilities and obligations and the type of legislation that teleworkers may fall under. The Ontario Employment Standards Act makes reference to homemakers. Assuming that the homeworkers category includes teleworkers, we can argue that they fall under the coverage of this legislation. Homeworkers are excluded only from the hours of work, overtime pay and public holidays provisions. Employers must apply for permits to employ home workers, and must register their names, addresses and wages with the Ontario Ministry of Labour, Employment Standards Branch¹. Teleworkers, however, appear to be excluded from the Workers' Compensation Act and the Occupational Health and Safety Act.

Those who are self-employed and might fall under the definition of dependent contractors (OLRA, Ch. 228, 1(1)h), and those who are employees of an organization would be covered by the Ontario Labour Relations Act. Working outside the employer's primary work location does not make teleworkers independent contractors, nor does payment on a piecework basis than an hourly wage or a salary, determine an employee's status (Simonson 1988). If workers are dependent on the work given to them by the employer and are subject to the employer's authority, then they should be considered employees or dependent contractors.

Typical Teleworkers. The recent survey of home-workers by Statistics Canada (1991) is the most comprehensive one that can give the characteristics of a typical teleworker. That survey, however, does not differentiate between teleworkers and other types of home-workers such as industrial home-workers and self-employed small business owners. Thus, the description of a typical teleworker is based on the literature that is mostly from non-Canadian sources (Chamot 1988, Christensen 1988b, DiMartino & Wirth 1990, Huws, Korte & Robinson, 1990,

¹It is not clear if these rules apply to teleworkers, since our correspondence with the Ministry showed no specific records of teleworkers.

Olson, 1985, Probert & Wajcman 1988).

į.

There are two characteristics that show a typical teleworker: occupation and gender. Based on these characteristics the teleworkers are divided into two groups. One group consists of teleworkers in clerical and secretarial occupations, and the other comprises managers and professionals. The former consists of a predominantly female, often semiskilled workforce, and the latter of a predominantly male, skilled workforce.

In terms of the personality characteristics expected from a `successful' teleworker, the literature gives certain characteristics. First, this type of work is not recommended to everyone. For an individual to be happy with telework, and for a company to be satisfied with teleworkers, this person has to be mature, independent, efficient and dedicated. The teleworker should be a problem-solver. The person should be self-sufficient and motivated. Experience and a high skill level contributes to the mutual satisfaction process (Kraut 1988, DiMartino & Wirth 1990).

Why telework is introduced? The literature (Christensen 1988a & b, Huws, Korte and Robinson 1990, IRRR 1988, Hamilton 1987, Olson 1987, Gordon 1988, DiMartino & Wirth 1990, Solomon & Templer 1991) shows that cost savings and flexibility are important reasons for employers to create telework. The telework also reduces employee commuting efforts and costs. Employees begin the workday fresh, in the relaxed environment of their homes. To some employees, telework gives flexibility to schedule their workday. The feeling that they are in control of their work schedules should give them satisfaction, which in return would increase their productivity and reduce absenteeism and turnover. Some employees.

Teleworkers give employers the enhanced ability to cover peak periods and to redeploy

their labour forces as demand for the product declines. Organizations can give extended customer service hours such as providing 24-hour service to customers. The flexibility might also be in decreased legal, contractual, financial and social responsibilities.

The literature also shows that telework is used to decrease the costs of office/ work space. Rather than having a large office/ work building in expensive business centres, organizations will have a smaller work site with some shared offices and fewer meeting rooms. Organizations also save from the costs of maintaining large parking lots and cafeterias.

For some employers, telework is a good approach for reaching disabled people. It might create work alternatives for employees who have temporary or permanent mobility impairment (Hunt & Berkowitz 1991, Raney 1985).

What are the difficulties for employers? While there are many advantages in using teleworkers, there are also some obstacles to telework that employers face with. One of them is the difficulty in supervising teleworkers. Managers are used to having their subordinates working in a location within their reach and control, in supervising teleworkers they feel like they have lost control (Gordon 1988). In relation with the supervision comes the difficulty of evaluating the teleworker. Research (Olson 1988) shows that employers put extreme constraints on the participant, giving conservative evaluations of performance. In promotion decisions, there might be a tendency to consider teleworkers less often (Solomon & Templer 1989), and these employees might not be available for the informal and formal training that takes place on a work site.

Payment of teleworkers. The literature on the earnings of teleworkers argues two points of view. One group, led by futurists Toffler (1980), argues that telework is `the future of

employment' and that people choose to do their work at home. Either they work with no difference in pay levels or choose to integrate paid work and the homemaking responsibilities, earning less but working with more efficiency and satisfaction and having more leisure time. This is the image predominantly portrayed in the popular press showing that the teleworkers have the best of both worlds.

The other group believes that teleworkers are exploited in terms of pay. Many work in low-paying jobs. When they start to work at home, they tend not to earn the same wage and benefits as their counterparts in the office/ workplace (Gordon 1988, Huws, Korte & Robinson 1990, Kraft 1987). Particularly when they are self-employed (independent contractors) employers save in health insurance, paid leave for sickness, maternity, holidays, pension contributions and a whole gamut of benefits.

Dedication/ Loyalty/ Isolation Issues. Some employers believe that there is decreased loyalty to the company because teleworkers are never brought into the organizational structure, and understandably never socialized to identify with the company (Christensen 1988c). Others believe that telework increases company loyalty, particularly for those who choose to work as teleworkers (Hamilton 1987).

The literature(Oldfield 1991, Christensen 1988b, ILO 1990, Huws, Korte and Robinson 1990) also discusses the isolation of teleworkers as a problem where solutions are not well thought until the problem surfaces with unrepairable damages to the workplace environment. Teleworkers tend to experience more stress and less job satisfaction than on-site workers (Gerson & Kraut 1988).

Methodology

ř.

In this study we used semi-structured interviews and a questionnaire to collect data. Using the information gathered from the literature, we prepared a semi-structured questionnaire on the employee - employer relations in telework. We contacted an organization known to employ teleworkers and had three interviews. There was approximately six to eight months period between interviews. To keep the organization anonymous, I will call it the HYK. The first interview with the HYK was used to gather as much information as possible about the telework environment in this organization. The second interview was used to pretest the questionnaire and get clarifications and more information on some of the issues. The pretest did not result in any major revisions of the questionnaire. The last interview was conducted on the phone and its purpose was to update the information.

Following the interviews, in the Summer of 1992 we surveyed all organizations with 10 or more employees in Hamilton and Area. Of the 1040 organizations surveyed only five employed teleworkers as defined in our study. In this paper I will focus only on the experiences of the HYK since the survey results are in the process of being analyzed. I believe the HYK's experience is a good source of information for organizations, unions and individuals that might consider initiating a telework program.

The HYK Experience

The HYK is a branch of a large Canadian organization providing service to its members. The telework idea was first initiated by a corporation that specializes in the technology, the Willow Corporation (WCorp). A pilot program was run by the WCorp in the Canadian Automobile Association Toronto Office in September 1990 (Willow Brochure 1992). The WCorp

provides the technology (equipment) and teleworkers to organizations. The technology works as follows. When a customer calls the organization for services or products, the computerized voice/data switch redirects calls off-premises to a teleworker's home. The teleworker uses a modem, a telephone and a computer to receive and process the information. Individuals are connected to and leave the system any time the supervisor and the teleworker agree to. The supervisor, who might be located on the company premises, can visually monitor everyone on the system through a computer screen. The screen shows every incoming call, every teleworker and on-site worker connected, each assigned call, where it goes, who is picking up, and when it is released. The supervisor can also listen to each teleworker's communication with the customers. The telecommunications system is also designed to record each call providing a hard copy of the calls. It also transfers or reroutes calls between teleworkers, supervisors, departments within the organization, or any number outside the organization.

Ę.

The HYK started the telework project, because it wanted to improve their service level. Call-takers were the first group (and still one of the two occupations) that were designated as teleworking. The initial reason for starting the telework employment was that the HYK's experiences had shown that on some days the organization was providing bad service to members and in other days it was paying staff for waiting idle for calls. For example during the winter months when the need for their services peaked, the HYK was not able to respond on time to service demands and in other days it was employing more call-takers than necessary.

The HYK telework pilot program started in the Fall of 1990 and got the Board approval in August 1991. The setting up of the pilot project started in December 1991. What I would like to stress here is that I believe the HYK's application of the telework program is exemplary. It

informed all on-site workers well ahead of time, about the introduction of the telework project in one of its departments. The HYK managers were straight forward and open about the implementation of the telework project, the partner organization that would provide teleworkers and the expected impact of telework on employees and the organization. In particular, the HYK managers informed all employees that no one will be laid off because of this project. The fulltime call-takers will continue to be employed in their present jobs under the same terms and conditions. The (regular) part-time call-takers will be given the option to be employed as teleworkers or to transfer to positions elsewhere in the organization for the same (or more) hours of work. Only temporary call-takers who were employed in the winter months when the demand for the HYK services reaches its peak, will not be hired anymore. The HYK also invited the employees to direct any questions that they may have about telework to individuals in charge of introducing the program.

Ř

It seems like the openness of management about the telework program contributed to its success. They shared the information as early as possible in the introduction of the program, and protected the job security of present employees.

Employment Relationships. The HYK contracted the services of the WCorp to provide the call-taking. The contracted service included not only the equipment but also the service of the teleworkers. Thus, the usual duad employee - employer relationships became a triad in this telework employment environment. Teleworkers provide service to HYK but are independent contractors with the WCorp.

Now the HYK has 150 employees working on premises. Initially only call-takers occupation was considered for telework. Now one other department is also using teleworkers.

In January 1991, a year before the telework program started, the HYK employed four full-time on-site call takers, six (regular) part-time call takers, and approximately 25-28 winter temporary call takers. In January 1992, when telework started, the HYK replaced the temporary employees with 12 teleworkers. It also started eliminating the part-time call taker positions. All six part-time call takers were either relocated to elsewhere in the organization or were given the option to work as teleworkers. The organization continued to employ four full-time call takers. Later, in the same year, eight more teleworkers were employed. Right now, there are no part-time call takers but 20 teleworkers. Of the four full-time call takers one is promoted to the supervisor of teleworkers position handling the 3 p.m. - 11 p.m. shift. The HYK's projection for the future is to relocate all full-time on-site call takers and give all the call taking work to teleworkers.

<u>.</u>

Although these teleworkers are working predominantly for the HYK, their employment relationship is with the WCorp-- and that is where things become blurry. Although the WCorp says that these people are independent contractors, in practice their employment relationship resembles the dependent contractors. Their employment is dependent on the work and the technology that the WCorp provides. Thus, in practice the WCorp becomes the primary employer and the HYK the secondary employer.

The WCorp seems to perform many functions that a corporation would normally perform for its employees. For example, teleworkers are recruited and placed by the WCorp². Their training is conducted predominantly by the WCorp, although the HYK is interested in taking a more active role in training. The WCorp works like a placement agency, finding employment

²They contact an organization which contacts agencies that focus on the employment of the disabled persons.

for individuals who are working as independent contractors (Willow Brochure 1992).

Ĩ.

Who are the typical teleworkers at the HYK? The targeted teleworkers group in the HYK and the WCorp is the physically disabled. The exact terminology they use is focusing on employing "mobility impaired people". The term refers to a person who might be permanently or temporarily unable to move freely. The mobility impaired includes those who are confined to a wheelchair. This definition extends to such groups as seniors and parents with preschool children. Thus, the typical characteristic of teleworkers employed for the HYK is mobility impairment. The gender of the workforce is not a predominant characteristics. Only 55% of the teleworkers that the WCorp has employment contract with are women.

In terms of the occupation, the teleworkers are from the typical female dominated, nonprofessional, non- managerial occupations. The future telework occupations in the HYK will again be in female dominated occupations such as the switchboard or the answering services. In terms of the personal characteristics of the teleworker, the only characteristic the HYK seemed to focus on was the customer/service oriented personality. The WCorp considers self-discipline, dedication to work, trustworthiness and reliability as other necessary characteristics.

The HYK has a plausible goal - giving employment opportunities to the physically disabled. This shows good citizenship by the organization. As well, it gives the organization a type of workforce that is willing to work whenever there is a need. Only a short notice is sufficient. Many of these mobility impaired people spend most of their time at home anyway, so informing the teleworker for the starting time of the work is just a phone call or a computer message. Similarly this has an advantage for the teleworker. If the teleworker has an illness that restricts her/him from sitting for extended periods, the teleworker can work for short periods with

longer breaks. For example some are giving a break of 15 minutes in every 45 minutes.

The HYK has another advantage in hiring physically disabled people. Since the disabled people have a very high unemployment rate, those who are employed by the WCorp and ultimately by its customers like the HYK, will be grateful to these organizations. The teleworkers know that there are many others who would like to be employed in their places. Thus they will be loyal to their employing organizations and give their full energies to their jobs. There will be few, if any, teleworkers who would complain about any aspect of the job.

Advantages in Hiring Teleworkers. Some advantages mentioned in the literature such as the teleworkers increased loyalty to the organization has been discussed above. Other advantages given in the literature also seemed to play a role in the employment of teleworkers at the HYK. For example the organization now has a lower recruitment and training costs since they do not hire the temporary workers in the winter and therefore, do not give them training. The HYK pays a fixed amount to the WCorp for training teleworkers but it is guaranteed to have teleworkers who are deemed to be satisfactory in performance. Training costs pays off in the end because the teleworkers are more dedicated since they are not temporary employees.

The telework project has also increased the employee retention. The teleworkers are holding on to their jobs. With the difficulty they might have in finding another job, they are not interested in leaving the telework jobs. For those on-site employees, the no layoffs policy seems to have generated a further loyalty to the organization. Employees now believe that their employer will be very hesitant to layoff workers. The organization has also saved in terms of the office space. Before the telework project, the HYK considered moving the call taking operation to another location where the general office expenses such as rent or land ownership

would be lower. However, the success of the telework program made the move unnecessary.

In the HYK's case the commuting aspect of telework [for on site workers] was not an issue to start the project. On-site call takers had no complaints about commuting. The continued on site employment of all full-time and part-time call takers (except one) is an indication of the low importance of the commuting aspect.

The HYK believes that productivity has also increased because the teleworkers do not see themselves as temporary employees. Also, as I discussed above, the service to customers has improved tremendously. The HYK says that one of the reasons for it to employ teleworkers was its sense of social responsibility to the public. That is why they focused on hiring physically disabled persons.

Different Supervision. The literature discussed the difficulties managers had in supervising teleworkers and in evaluating their performance. In the HYK's case the immediate supervisor said that the supervision was not difficult but different. For on-site employees the supervisor can see, listen and discuss their work but their work is also based on telephone communications. For teleworkers the supervisor can listen any time she wants to or monitor the work on the computer screen. However, the supervision is not used to scrutinize them but to improve their service to customers. Teleworkers knew that when they were new, the supervision was intense but once they mastered their work, the supervision decreased.

If the HYK had any problems with the teleworkers performance, productivity or mannerisms, the supervisor would direct this to the WCorp who would then deal with the teleworker. For example the WCorp would write warning letters to teleworkers and would take other disciplinary action. When teleworkers were hired the criteria for expected performance were already in place. The organization used the same criteria as the one for on site call takers: Each call should take about two minutes and the information must be accurate. This year the HYK started a more formal performance appraisal process. After completing the evaluation form, the supervisor visits teleworkers at home and goes through the appraisal form. The teleworker signs the appraisal form acknowledging that she/he has seen it.

Ĩ.

Pay and Benefits. The teleworkers in the HYK were initially paid \$0.66 per call. The organization does not pay benefits but a fee for services. In deciding the amount for the fee the HYK researched salaries in Hamilton compared with Toronto (where comparable teleworkers were employed). It found that generally Hamilton salaries were 75% of Toronto's salaries. The HYK in-house call takers were earning \$8-9 per hour. Based on an average of 13 calls per hour, the HYK came up with the fee (\$0.66) per call. In 1993 this was increased to \$0.68 per call. This increase was not a reflection of a productivity increase but a basic cost-of-living increase. According to the manager, the work itself rewards productivity by the number of phone calls a teleworker takes.

Teleworkers lease their equipment from the WCorp and pay a monthly rental rate (presently \$47.50 per month)³. They also have to pay for the installation and the monthly cost of an extra phone line (\$12.00 per month). The total earnings of the teleworker depend on the volume of work and their willingness to be available for work. For example if the teleworker is taking calls for a fast food restaurant and is willing to work only in early mornings her/his earnings might not be very high.

The piecework pay system have more advantages for the employer than the teleworker.

³Some own the equipment and therefore pay only for other services.

Often the employing organization is relieved from all its responsibilities. Teleworkers employed as independent contractors tend to lose any additional health benefits or pension coverage the onsite employees might be getting. Moreover, their total earnings depend on the sale of a product or service that they themselves have almost no control in increasing the volume or the quality of the product. For some who previously had almost no job prospects (such as physically disabled people) these might not be important concerns. However, for those who are used to or expect to work under traditional work conditions, earning a fee for services (or pay for call system) than a salary or wage with benefits would be considered as not acceptable. Even the teleworkers who might be satisfied with the fee for services system would realize that in the long term they might be losing more than they gain. For example, they might have a low retirement income because of their irregular earnings from telework.

į,

The experience of the HYK showed that this organization did not have any responsibilities for work related illnesses or accidents at work for teleworkers. The WCorp does not have these responsibilities because the teleworkers are employed as independent contractors; thus, selfemployed.

Other Human Resources Policies. The HYK had no responsibility in developing human resources policies for the teleworkers since they were not its employees. In terms of scheduling, the WCorp was doing all the work scheduling for the HYK. Now the HYK started doing its own scheduling.

In terms of the security/ confidentiality of the information, the WCorp does credit checks for every teleworker. Each teleworker signs a clause of confidentiality (included in their contract). Thus, they cannot share the information with anyone.Theleworkers workplace is their home. Thus, I would have expected some policies on child/dependent care in the teleworkers workplace (home). There seemed to be no such policies on this issue. Although the popular media loves to give the image of a teleworker working while kids are happily playing beside her/him, this is only a dream image. It is difficult to provide good service to a customer if a dependent in the home is demanding something while the teleworker is taking a call.

Promotion in a teleworker job is another concern discussed in the literature. In this workplace, promotion of teleworkers was not the responsibility of the HYK but the WCorp. There were, however, some informal talk of moving those teleworkers who excel to a second level supervisor to other teleworkers or to help the full-time on-site officer in scheduling work. An additional reward system that the WCorp thought of was giving best teleworkers the first chance to get additional clients. Another possibility that the HYK mentioned is to provide a type of mentor system where the experienced teleworkers help the less experienced ones.

The WCorp mentioned that promotion was possible in telework. For example, a successful teleworker has been promoted to the schedular position. She does work scheduling in every fifteen days, in addition to her usual call taking responsibility and the evening shift supervisor. This person might be also involved in training the trainers.

One last item that I would like to discuss is the problem of isolation. The literature says that teleworkers miss the social interaction of the office environment and become less satisfied and more stressed employees. The HYK mentioned that to eliminate the social isolation, the WCorp organized a newsletter for teleworkers. The workers also have some degree of contact with each other through networked systems.

In Conclusion

Ĩ.

The telework experience in the HYK is plausible in many aspects but also raises several questions for the future of the employee - employer relations. The way the telework program was introduced and implemented at the HYK and the type of teleworkers they employ, make this an exemplary organization for others that might want to start such a project. However, their success cannot work in all environments. First, the on-site employees in the HYK were supportive of the telework project because none were going to lose their jobs. Second, the HYK was hiring mostly physically disabled people for the telework jobs that earned a further acceptance by the employees and the public.

However, examining the employment relationship as a whole raises some concerns. These teleworkers are not employees of an organization but still are dependent on the work provided by an outside organization for their survival. They earn a fee for their services that is assumed to include benefits. If they were presumed to be homeworkers then they would be covered by the Ontario Employment Standards Act. As independent contractors they fall outside the coverage of individual employment law. Their employment relationship is further blurred by the triad relationship. On the one side there is an organization that is buying the services of the teleworkers and on the other side there is an organization that is providing the technology and access to the secondary employer. The teleworkers, the third side of this triad, are accepting orders and satisfying the customer needs. In the HYK's case everything seems to work fine and everyone are satisfied with the relationship but this employment system as a whole is open to exploitation; and such exploitation could have occurred even in this case if the managers had a different mind set and a more authoritarian management style.

REFERENCES

7.

- Atkinson, John. 1987. "Flexibility or Fragmentation? The United Kingdom Labour Market in the Eighties." Labour and Society, Vol. 12, No. 1, 87 105.
- Chamot, Dennis. 1988. "Blue-Collar, White-Collar: Homeworker Problems." Kathleen E. Christensen, ed. The New Era of Home-Based Work: Directions and Policies. Westview Press. 168-176.
- Christensen, Kathleen E. 1988a. "Introduction: White0Collar Home-Based Work -- The Changing U.S. Economy and Family." Kathleen E. Christensen, ed. *The New Era of Home-Based Work: Directions and Policies*. Westview Press, 1-11.
- Christensen, Kathleen E. 1988b. Women and Home-Based Work: The Unspoken Contract. Henry, Holt and Co.
- Christensen, Kathleen E. 1988c. "Independent Contracting." Kathleen E. Christensen, ed. The New Era of Home-Based Work: Directions and Policies. Westview Press. 79-91.
- DiMartino, Vittario and Linda Wirth. 1990. "Telework: A New Way of Working and Living." International Labour Review.Vol. 129, No. 5, 529-554.
- Gerson, Judith M. and Robert E. Kraut. 1988. "Clerical Work at Home or in the Office: The Difference It Makes." Kathleen E. Christensen, ed. *The New Era of Home-Based Work:* Directions and Policies. Westview Press. 49-64.
- Gordon, Gil E. 1988. "Corporate Hiring Practices for Telecommuting Homeworkers." Kathleen
 E. Christensen, ed. The New Era of Home-Based Work: Directions and Policies. Westview
 Press. 65-78.

Hamilton, Carol-Ann. 1987. "Telecommuting." Personnel Journal. Vol. 66, 91-101.

- Hagen, Elizabeth, Jane Jenson and Ceallaigh Reddy (eds). 1988. Feminization of the Labour Force: Paradoxes and Promises. Oxford University Press.
- Hunt, H. Allan and Monroe Berkowitz. 1991. New Technologies and the Employment of Disabled Persons. ILO.
- Huws, Ursula, Werner B. Korte and Simon Robinson. 1990. Telework: Towards the Elusive Office. John Wiley & Sons.
- IRRR (Industrial Relations Review and Report). 1988. "Teleworking flexibility with remote control." Vol. 430, No. 13, 2-7.
- ILO (International Labour Organization). 1990. "Telework." Conditions of Work Digest. Vol. 9, No. 1.
- Kraft, Philip. 1987. "Computers and the Automation of Work." Robert E. Kraut, ed. Technology and the Transformation of White-Collar Work. Lawrence Erlbaum Associates. 99-112.
- Kraut, Robert E. 1988. "Homework: What Is It and Who Does It?" Kathleen E. Christensen, ed. The New Era of Home-Based Work: Directions and Policies. Westview Press. 30-48.
- Miller, S.M. 1988. "Foreword." Robert E. Kraut, ed. Technology and the Transformation of White-Collar Work. Lawrence Erlbaum Associates. 35-52.
- Oldfield, Margarethe H. 1988. "The Electronic Cottage -- Boon or Bane for Women? A Critique of the Futurist View of Home Work and an Exploration of Mothers' experiences With It." Paper presented at the Workshop on Gender and Economic Restructuring, Waterloo, Ontario. 13 p.

Olson, Margrethe H. (ed). 1985. Office Workstations in the Home. National Academy of Sciences. Olson, Margrethe H. 1987. "Telework: Practical Experience and Future Prospects." Robert E. Kraut, ed. Technology and the Transformation of White-Collar Work. Lawrence Erlbaum Associates. 113-134.

- Olson, Margrethe H. 1988. "Corporate Culture and the Home-Worker." Kathleen E. Christensen, ed. The New Era of Home-Based Work: Directions and Policies. Westview Press. 126-134.
- Probert, Belinda and Judy Wajcman. 1988. "Technological Change and the Future of Work." Journal of Industrial Relations, Vol. 30, No. 3. 432-448.
- Raney, Jr. James G. 1985 "American Express Company: Project Homebound." Margrethe H. Olson, ed. Office Workstations in the Home. National Academy of Sciences.
- Simonson, Joy R. 1988. "Protection of Clerical Workers: From What, By Whom?" Kathleen E. Christensen, ed. The New Era of Home-Based Work: Directions and Policies. Westview Press. 157-167.
- Solomon, Norman A. and Andrew J. Templer. 1989. "The Use of Telecommuting by Large Canadian Corporations: A Preliminary Report." Proceedings of the 26th Conference of the Canadian Industrial Relations Association. June 4-6, 1989, Quebec, 321-327.
- Solomon Norman and Andrew Templer. 1991. "Human Resource Implications of Telecommuting in Canada: Preliminary Results of a Survey." *National Centre for Management Research* and Development, the University of Western Ontario. Working Paper Series No. NC 91-10.

Statistics Canada. 1991. Survey of Work Arrangements. (The questionnaire).* Toffler, Alvin. 1980. The Third Wave.Morrow.

Willow Brochure. 1992. "Willow: The First Integrated Telecommuting System." Brochure.

Zeytinoğlu, Işık Urla. 1992a. "Part-Time and Other Non-Standard Forms of Employment: Why Are They Considered Appropriate for Women?" *Proceedings of the Ninth Congress of the IIRA*. Vol. V, 107-118.

Zeytinoğlu, Işık Urla. 1992b. "Technological Innovation and the Creation of A New Type of Employment: Telework." McMaster University, MGD School of Business, Innovation Research Working Group, Working Paper, No. 14. August.

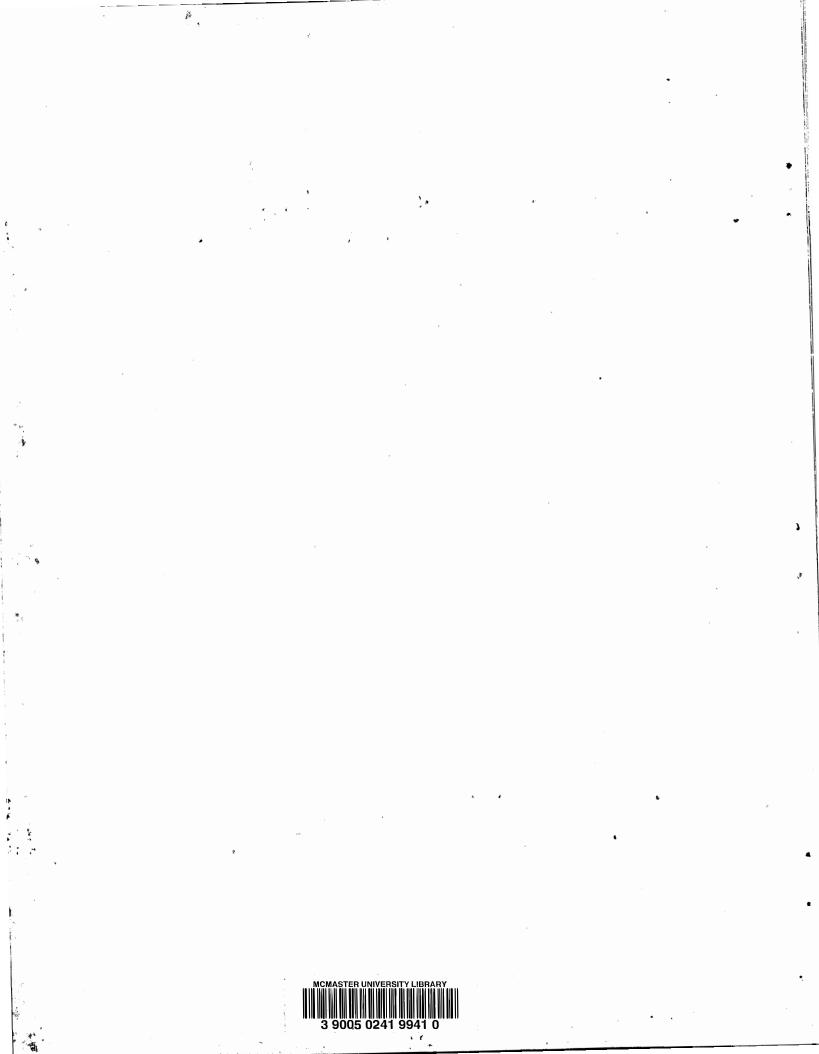
INNOVATION RESEARCH WORKING GROUP WORKING PAPER SERIES

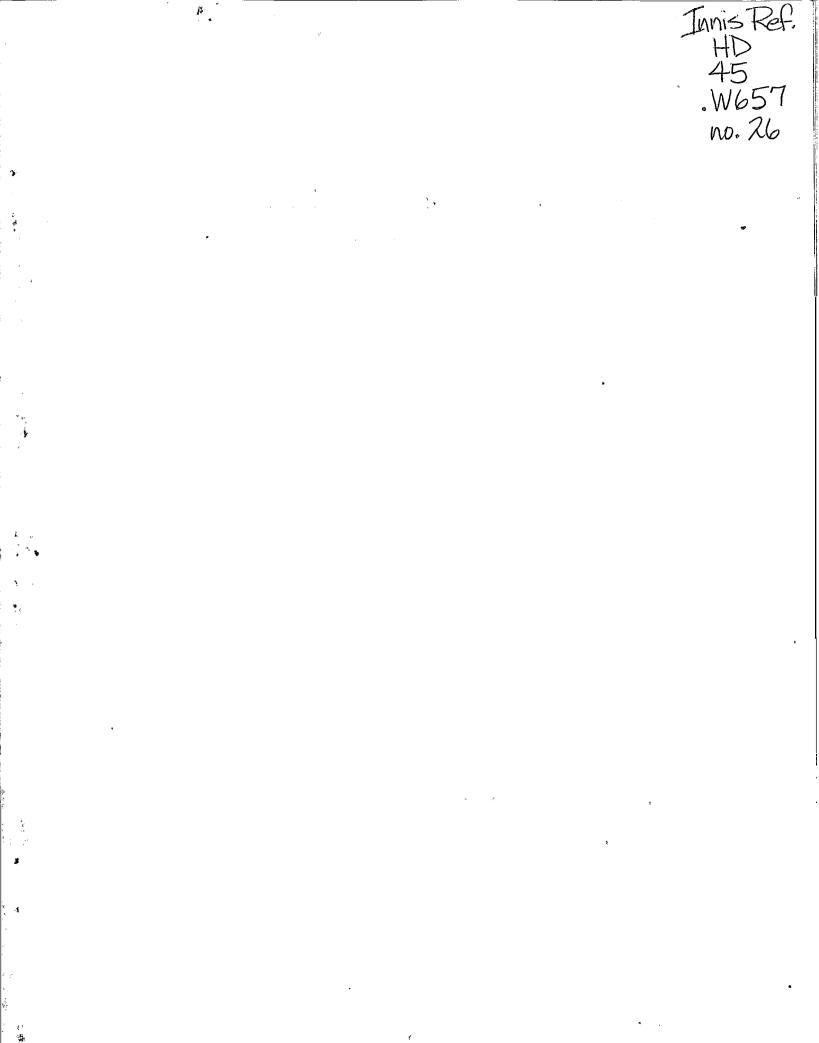
1. R.G. Cooper and E.J. Kleinschmidt, "How the New Product Impacts on Success and Failure in the Chemical Industry", February, 1992.

ĵ.

- R.G. Cooper and E.J. Kleinschmidt, "Major New Products: What Distinguishes the Winners in the Chemical Industry", February, 1992.
- 3. J. Miltenburg, "On the Equivalence of JIT and MRP as Technologies for Reducing Wastes in Manufacturing, March, 1992.
- 4. J.B. Kim, I. Krinsky and J. Lee, "Valuation of Initial Public Offerings: Evidence from Korea", February, 1992.
- M. Basadur and S. Robinson, "The New Creative Thinking Skills Needed for Total Quality Management to Become Fact, Not Just Philosophy", April, 1992.
- 6. S. Edgett and S. Parkinson, "The Development of New Services Distinguishing Between Success and Failure", April, 1992.
- 7. A.R. Montazemi and K.M. Gupta, "Planning and Development of Information Systems Towards Strategic Advantage of a Firm", April, 1992.
- 8. A.R. Montazemi, "Reducing the Complexity of MIS Innovation Through Hypermedia and Expert Systems", May, 1992.
- 9. M. Basadur and Bruce Paton, "Creativity Boosts Profits in Recessionary Times - Broadening the Playing Field", June, 1992.
- 10. Robert G. Cooper and Elko Kleinschmidt, "Stage-Gate Systems for Product Innovation: Rationale and Results", June, 1992.
- 11. S.A.W. Drew, "The Strategic Management of Innovation in the Financial Services Industry: An Empirical Study", July, 1992.
- 12. M. Shehata and M.E. Ibrahim, "The Impact of Tax Policies on Firms' R & D Spending Behavior: The Case of R & D Tax Credit", July, 1992.
- 13. Willi H. Wiesner, "Development Interview Technology: Implications for Innovative Organizations", July, 1992.
- Isik U. Zeytinoglu, "Technological Innovation and the Creation of a New Type of Employment: Telework", August, 1992
- John W. Medcof, "An Integrated Model for Teaching the Management of Innovation in the Introduction to Organizational Behaviour Course", October, 1992.

- Min Basadur, "The Why-What's Stopping Analysis: A New Methodology for Formulating Ill-Structured Problems"; October, 1992.
- Stephen A.W. Drew, "Strategy, Innovation and Organizational Learning an Integrative Framework, Case Histories and Directions for Research", November, 1992.
- Stephen A.W. Drew, "Innovation and Strategy in Financial Services", November, 1992.
- 19. Scott Edgett, "New Product Development Practices for Retail Financial Services", November, 1992.
- Robert G. Cooper and Elko J. Kleinschmidt, "New Product Winners and Losers: The Relative Importance of Success Factors - Perception vs. Reality", November, 1992.
- 21. Robert G. Cooper and Elko J. Kleinschmidt, "A New Product Success Factors Model: An Empirical Validation", November, 1992.
- 22. Robert G. Cooper & Elko J. Kleinschmidt, "Stage Gate Systems: A Game Plan for New Product Success", November, 1992.
- 23. Min Basadur, "Optimal Ideation-Evaluation Ratios", March, 1993.
- 24. Christopher K. Bart, "Gagging on Chaos", March, 1993.
- 25. Yufei Yuan, "The Role of Information Technology in Business Innovation", July, 1993.





٢.