TELEWORK ARGENTINA

Telework For Sustainable Development

El Cid Editor

Coordinator

Sonia Boiarov

Authors by country

Wendy Spinks (Japan)

Francisco Ortiz Chaparro (Spain)

Gil Gordon (USA)

Andrew Gaudes (Canada)

Harri Virolainen (Finland)

Alvaro Mello (Brazil)

Vera Regina Alexandre Boscatte (Brazil)

Adriano Bandini T. Campos (Brazil)

Jorge Llubere (Costa Rica)

Cristian C. Salazar (Chile)

Claudia Giraldo Gallo (Colombia)

Eduardo Alfredo Castillo Builes (Colombia)

MarioThorp (Argentina)

Luis Miguel del Aguila Umeres (Perú)

The International Telework Academy has its roots in the International Telework Foundation (ITF), an independent non-profit association, which was launched in 1995.Since 1996, an international series of telework workshops has been conducted to promote academic research in the domain of telework and other new forms of work, and to encourage exchange between researchers and practitioners in the field.

The academy has held a number of workshops including the UK, Netherlands, Spain, Sweden, Finland, Japan, Brazil, Canada and Greece. These workshops have resulted in the publication of several edited books of high academic standard. The volume you have in your hands is a compilation of the best papers presented during the first event held in Argentina in August 2010.

CONTENTS

Prologue
The Evolution of Telework
Wendy A. SPINKS

Chair, International Telework Academy
Professor of Management Science Tokyo University of Science

The International Telework Academy (ITA) is an international affiliation of academic researchers involved in the area of telework and other new ways of working. Originally part of the International Teleworking Foundation (ITF), a non-profit-making independent association initiated in 1995, the Academy hosts an online research community and since 1996 has held an annual research conference. The workshops have been held in cities around the globe, including London, Amsterdam, Tokyo, Stockholm, São Paulo, and the island of Crete. The Academy was especially pleased to help in hosting the 2010 workshop in Buenos Aires.

Ever since becoming involved in researching telework in the late 1980s, I have never ceased to be amazed at the wide range of issues telework can help individuals, businesses, communities and nation states address. And yet, despite the amazing versatility of this work arrangement, telework has often failed to live up to its potential. This is perhaps an indication of either our inherent conservatism as human beings, the resilience of familiar organizational practices, a failure of public policy, or a combination of all three. Nevertheless, as this collection of papers so clearly demonstrates, telework is more relevant today than ever as emerging economies in Central and South America look to telework to address a range of issues from creating effective business models, injecting more social equity into the labour market, promoting greater access to educational opportunities and pursuing more sustainable ways of working.

I will leave the reader to explore these applications in the individual papers included in this collection, choosing instead to look back on what I consider to be the key stages through which telework has evolved around the globe. In so doing, I will attempt to map telework across four decades and along three major streams, namely social driving forces, workplace driving forces and technological enablers (See chart). Hopefully, this will provide a useful overview to those new to the field and also act as a concise history for those of us who have been involved in telework over the decades.

SOCIAL DRIVERS

Although isolated incidences of telework arrangements have been documented as far back as the 1960s, telework as a movement is widely held to date from California in the 1970s. The initial driver was the so-called Oil Shock of 1973, which raised fears of higher oil prices and disrupted supply even in the United States of America. Such fears were particularly strong in Southern California with its high dependence on private vehicle transport, and with the advent of telecommunications technology, the germ of an idea for replacing vehicular commuter transport with transporting work from the office to the home via telecommunications was born. In reflection of this initial rationale, the phenomenon was named "telecommuting" and was reasonably popular for a period of time albeit in a limited geographical area. Once fears of the Oil Shock receded, however, so too did interest in telework.

The next social driver to emerge on the scene was once again in Southern California, this time from around the start of the 1980s. The issue now was air quality and government bodies were considering ways to keep private vehicles off the freeways. Compared to car-pooling, which

was also actively promoted, telework was seen as an even more effective means of lowering work-related travel, since the worker did not need to travel anywhere, i.e. they could work at home. While there was much debate and research conducted on just how much telework reduced actual travel, there is no doubt that the push to improve air quality was a major force in promoting home-based telework and centre-based telework at the time.

Also in the 1980s, and mostly in Europe and to a certain extent Japan, a third social driving force emerged: the desire to harness telework to limit urban sprawl and to revitalize rural communities. Many leading economies were undergoing severe recession in the 1980s and the lack of job opportunities in rural areas was triggering a population drain away to large urban centres. In countries as diverse as Finland and Japan, telework with its ability to shift work along telecommunication lines rather than highways was seen as a valuable tool in bringing work to country areas, thereby retaining population and making even small settlements still viable as communities. The many telecottages established throughout Europe date from this time and are the result of this policy tack.

In the 1990s, yet another social driver was added to the already existing ones: the need for society to respond to natural and/or manmade disasters. Incidents instrumental in placing this application of telework on the policy agenda were the 1993 World Trade Center bombing in New York; the 1994 Northridge Earthquake near Los Angeles; the 1995 Great Hanshin Earthquake in and around Kobe, Japan; and the 1994 and 1995 sarin poison gas attacks in Japan. The logic here was that using telework arrangements to disperse the workforce would not only decrease the attractiveness of potential terrorist attacks, but would also limit the cost of any such attack in terms of human life and business stoppages. In point of fact, many major banks moved their back-up services across the river to New Jersey in the wake of the 1973 WTC bombing and also implemented in-house telework programs.
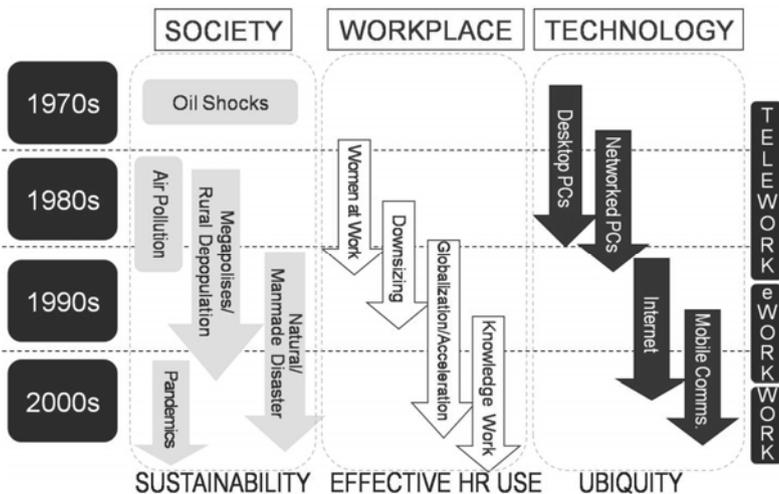

CHART: How telework has evolved

This risk management approach to telework was further reinforced in the 2000s as the need to cope with the possibility of pandemics became more urgent in the wake of several outbreaks of avian flu and especially the 2009 outbreak of swine flu. Telework is often now included in many corporate Business Continuity Plans and has important implications for averting large-scale contagion.

Across all of these drivers the same concern can be found: that of maintaining the sustainability of society in terms of energy, air quality, urban and rural development, and risk management. Needless to say, these drivers are still relevant today and may be of particular importance in societies where basic infrastructure may not be well developed.

WORKPLACE DRIVERS

Turning to workplace drivers of telework, first and foremost both chronologically and also in terms of impact must be the ongoing advance of women into the workplace from the late 1970s. Of course, in advanced economies women were already entering the workforce in large numbers in the 1960s. What makes the 1970s so crucial is that this is when women, after close to a decade in the workplace, start entering positions of responsibility in the corporate world. Unfortunately for corporate management, this newfound seniority also coincided with advancing biological clocks, forcing many women to choose either career or family. Telework was seen as one way of retaining key personnel as well as helping women to juggle career and family responsibilities, and is still a major tool in current work/life balance programs.

Entering the 1980s, many workplaces especially in North America were hard hit by economic recession, triggering large-scale and frequent downsizing. In fact, by the late 1980s downsizing was a popular cost-cutting strategy. Irrespective of how correct in hindsight this business strategy was, for the front-line manager widespread downsizing translated into doing more work with less staff, which meant raising productivity. Since telework promised the benefits of less travel and therefore physical fatigue, less office interruptions because workers were home-based, and more flexible scheduling, many managers started to approve the work arrangement even in the absence of a formal in-house policy.

The need to do more with less was further aggravated by the so-called IT Revolution creating a fast-moving, global economy. Now the management challenge was not only to do more with less, but faster, so any leveraging of worker effectiveness was to be welcomed. Allowing more staff to telework from home also helped offshore communications, workers now able to contact their counterparts outside "normal" office hours without being tied to the office desk. In fact, many businesses starting using offshore offices to perform back-up operations that took advantage of time differences.

And of course, as we entered the 1990s, manufacturing was rapidly being replaced by nascent information and service industries as the main generators of economic activity, leading to the rise of greater knowledge work. As workers increasingly used information technology to add value, the physical location of work became less important. Innovation, creativity and knowledge management were now the business focus and diverse locations and diverse teams were seen as key components. It is around this time that virtual teams, and indeed, the virtual office, become part of the larger business scene

Across all of these workplace drivers the common constant is: the effective use of human resources, or in today's language, "engagement". In a world where your workers are your means of production, any work arrangement that optimizes their contributions must be given fair consideration. If anything, these workplace drivers are even more relevant today and will be crucial in helping businesses meet their competitive needs no matter where they are located.

TECHNOLOGICAL ENABLERS

Finally, the past four decades have seen enormous change in the tools with which we do business. These technological enablers have all aided the implementation of telework, principally by expanding the amount of and nature of work that can be conducted offsite. For instance, the advent of early desktop PCs in the 1970s was instrumental in fostering "teleguerillas", a class of worker who had a computer at work and at home and who found it increasingly futile to travel in a car to use the same machine that they had on their desk at home. Once these computers became networked in the 1980s, the range of tasks that the teleworker could perform increased significantly. No longer did the worker need to take everything home in order to work; the amount of work-related files available online gradually increased. When the Internet vaulted onto the scene in the 1990s, not only could the teleworker access in-house files; it was now possible to communicate with people on other networks as well as to access a vast range of online material. Freelance contractors could now send and receive work without actually visiting client premises; online businesses could advertise and sell their goods without having a physical market presence. Cloud computing is just the next step in a long line of improved access to data and information.

These trends have all been augmented exponentially with the advent of mobile telecommunications in the mid-1990s. A phone no longer connects to a fixed location, but to a fixed person. In this respect, it has revolutionized how people contact each other. Moreover, a phone is no longer just a phone; it is a voice recorder, camera, address book, business diary and much more. As a tool, it allows the teleworker to always be in touch with the office (and as such, brings a whole new set of issues to be dealt with).

The common constant linking all of these technological enablers is ubiquity: anywhere, anytime access to the information you need to work, to contact colleagues and clients. Interestingly, now that we can work anywhere, anytime, we are now faced with actively choosing when and where we will work. Nevertheless, this arsenal of technological tools has changed how and where we work, and provides hitherto geographically marginalized countries with previously inconceivable possibilities for growth and employment, India's hi-tech transformation being a case in point.

Interestingly enough, the name applied to this type of work arrangement in the popular press has also evolved. What was once "telecommuting" became "telework" as the phenomenon spread to home-based businesses, the public sector, and lone traders. As the so-called IT Revolution began to change many aspects of how we lived and work and electronics became a business mainstay, we saw the name contracted to "e-work", mimicking other popular "e-" words, such as e-mail, e-commerce, e-government, e-books, etc. And what does the 21st Century hold? The complete erasure of all prefixes into simply "work" as all of us use telework in some form or other for the daily pursuit of work, education and life in a diverse range of locations.

INTRODUCTION

Carolina ROBINO, Ph.D.

Program Officer
International Development Research Center

The International Development Research Centre (IDRC) is a public corporation created by the Parliament of Canada in 1970 to help developing countries use science and technology to find practical and long term solutions to the social, economic and environmental problems they face.

For more than forty years, IDRC has worked in close cooperation with Latin American researchers. IDRC has financed approximately three thousand research activities, coordinated and developed by institutions and researchers from the Latin America region, in many subjects such as management of natural resources, health, innovation systems and information and communication technologies (ICTs) and, social and economic policy. This book explores some aspects of the interrelationship between the last two research areas.

A development challenges solving perspective has guided IDRC´s approach to programming on ICTs. ICTs have the potential to offer new answers to critical development problems. At the same time they posit new development challenges. It was under this perspective that IDRC has supported programming on telework and the opportunities and challenges it offers to help solve one of the regions critical challenges: the creation of decent job opportunities. Can telework offer new work opportunities? Which specific groups could benefit? Will this increase labour market polarization and inequality or instead offer alternative job opportunities for specific marginalized groups? Are there other implications that the development of this way of work might have such as in terms of local dynamics and local development. These questions motivated the development of a first stream of projects in Latin America and the Caribbean supported by IDRC since 2004.

A regional project titled "Telework, New Forms of Work and Employment Opportunities" examined the implications of telework for social and labour inclusion, competitiveness, and local development and initiated network activities between various research teams and with other stakeholders (Ministries of Labour, communications agencies, private enterprises, Civil Society Organizations - CSOs) that were initially working in isolation. One component of this project examined the implication of the export (supply and demand) of teleservices for social and labour inclusion through studies in four selected countries: Argentina, Brazil, Colombia and Costa Rica. The researchers initially found scarcely any statistics on foreign trade in services. Through primary research (surveys), they discovered that the profile of the current teleworker was similar in the four countries. Most were men living in heavily populated urban areas, highly educated, aged 34-39 years and owners of the tools to telework. The project resulted in the publication of various reports and books and had considerable impact on the participating countries. The project researchers provided expert advice to install the debate on Labour market legislation regarding this new work modality. As a result Telework was included within the general labour law of Chile and the Colombian Congress passed Telework Law No. 1221 (16 July 2008).

A couple of years later, a new initiative was developed to examine the opportunities opened up by the diffusion of information and communication technologies (ICTs) for people with disabilities through, pursuing employment and achieving independent living. The project explored the significance of ICTs as equalizers of abilities. Researchers analyzed the socio-labour situation and profile of people with disabilities in nine Latin American countries and assess whether capacity building in ICTs and telework constitute an alternative for bringing them into the labour force. It explored how existing norms and regulations for the inclusion of the disabled in the workforce are being enforced in each country and the recommendations flowing from the research are being directed to stakeholders involved in the social and labour inclusion of disabled persons.

Telework is now emerging in Latin America and the Caribbean (LAC) and the debate between its supporters and skeptics is not yet based on rigorous evidence. Very recently IDRC started an initiative on a relatively unexplored dimension associated to telework: its potential as a tool for reducing commuting and green gas house emissions. The daily commute of millions of people to their workplace is a major source of pollution in urban areas. ICTs make it possible to work from remote locations, resulting in a reduction of transport-related greenhouse gas emissions. Through "telework" the daily commute is replaced by telecommunications links, offering an innovative way to solve environmental and traffic problems. This project, therefore, aims to provide policymakers, businesses and workers with accurate, up-to-date information about the benefits and limitations of telework in the region. The project focuses on assessing the extent telework could contribute to reducing emissions and saving energy, both in the home and at the workplace. The project is also exploring the social, cultural and economic implications of telework, its impact on family dynamics, gender roles, work-life balance. The study focuses on 3 cities: Buenos Aires (Argentina), Mexico City and Lima (Peru). It is expected to result in three comparative case studies, three telework legislative models (each adapted to the country in question), a number of articles in academic journals and a book.

As part of the above mentioned efforts to further understand and debate the development implications of telework in the region, IDRC supported the 2009 Costa Rica Telework conference and the ITA 2010 conference in Buenos Aires "Teletrabajo para el desarrollo sustentable". By bringing together researchers from different parts of the world, discussions revolved around some of the critical questions mentioned above. This book complies some of the papers presented in the ITA 2010 conference in Argentina.

The first article by Cravero included in the book proposes a series of questions which are subsequently explored through the other papers. If teleworks focuses first on the function (activities, tasks performed) rather than on the organization, how to sustain the function outside the organization? Within an organization but outside the building? Various articles here discuss the organizational and worker identity challenges related to this work modality.

Another question raised in the paper refers to the tension between telework as a means for inclusion but that can, at the same time, increase inequality. To illustrate one of the many dimensions of the inclusion-exclusion debate and as a contribution to examining the potential and challenges of telework for marginalized groups the study by Cabrera Rico focuses on telework and rural communities and examines a number of strategies that have been used in a pilot project to promote the benefits of teleworking in a rural community in the State of San Luis Potosí (Mexico).

A series of studies in the book then focus on the challenges in terms of the redefinition of management practices as well as for the overall reorganization of the workplace. Castillo Builes´ article examines the experience of a Colombian higher education institution "La Católica del Norte Fundación Universitaria" that was the first virtual university in the country. Because of its virtual nature all professors and most of the administrative personnel are teleworkers. The author argues that beyond the appropriate technology, political will to advance this work modality is critical. In addition he argues that specific personnel profiles and institutional policies are needed. Training for teleworkers has been also relevant. The paper examines a series of strategies for the monitoring and control of teleworkers.

As a new way of work, telework proposes workplace organization challenges including the organization´s identity. Through conducting focus group sessions with managers and teleworkers, the study by Brizuela and Picado builds on the UNED (Universidad Estatal a Distancia) experience to examine the phenomenon of the teleworker identity construction as well as of group identity. The study finds that an important part of this new identity construction process is the relationship manager - teleworker, as the form of link as well as the ways and channels of communication, monitoring and evaluation systems must have to be reconceptualised.

A study by Castro Garcia examines the telework experience at the Costa Rican Institute of Electricity (ICE) and argues that three critical issues need to be taken into account for telework to deliver on its promised benefits: technology, the company and the person. The culture and dynamics of the group where telework will be implemented are a fourth critical element to take into account as the introduction of telework will no doubt transform the group dynamics. Bringing his experience as the Costa Rica National Telework Coordinator, Llubere Azofeifa, analyses in this book a series of limitations in the various pilot telework initiatives in the public sector in Costa Rica including resistance from middle management, lack of communication programs, lack of training for application of telework procedures, lack of team structure, and connectivity and software that would allow for a proper implementation of telework. The article proposes a series of lines of action to improve the pilots and therefore be able to scale up these initiatives. Proposals includes the development of a training program both for teleworkers and managers and the design of a software solution "package" that makes accessing basic e-Work services easier.

The virtual environment sets new job demands and challenges relating to work well being. There is a debate around whether telework can contribute to increased worker wellbeing or whether it does increase workload. Virolainen examines these issues with data collected from 10 different virtual teams in 5 different Finnish organizations. He finds that the telework does not explain work load factors although it set some challenges for work well being.

Despite the growing familiarization of new generations with ICTs, the education system is still based on a socialization process that relies on face-to-face education and with scarce training in virtual environments, Steizel and Mayoral paper presents a collaborative experience with more than 70 students from different Argentine universities, teamed up in 15 virtual groups. The study starts with an identification of the challenges of distance learning including building trust, dealing with conflict, and upholding work interaction and communication. It subsequently examines educational devices that aim at developing skills for distance learning for university students.

Boiarov´s "New organizational forms in telework: from the factory to the virtual building" article describes the "Telework Towers" initiative: a virtual office building that gathers in one place the teleworkers making their services available to any person who needs them and wishes to hire these services. These efforts resulted in adding 208 teleworkers to the virtual offices located in 15 countries.

The final paper by Pekkola explores how intellectual capital is structured in an organization that includes telework practices. It examines two Finnish companies and defines the elements of efficiency and drawbacks of telework and develops a theoretical and empirical telework related model of intellectual capital.

Most of the articles included in this book are based on case studies and perhaps raise more questions than answers. As such we hope it will stimulate a stream of continuous research on the issues raised here to build a mass of evidence which would eventually help design public policies oriented towards more inclusive and sustainable societies in Latin America and the Caribbean.

Buenos Aires Declaration on telework

The 2010 Telework[1] finish with the following "Buenos Aires Declaration on Telework". The purpose of this document is to work in the development of the modality of teleworking conducive to a greater equity and inclusion in the region with job opportunities for all.

FULL TEXT OF THE BUENOS AIRES DECLARATION ON TELEWORK

After three intense days of workshops organized into the themes of Inclusion, New Labour Relations and Sustainable Development, participants from over 14 countries at Telework 2010: 15th International Telework Workshop ("Telework for sustainable development", 25-27 August 2010, the City of Buenos Aires, organized by the ICT Commission, the International Telework Academy and USUARIA), agree to make the following statements to social and governmental actors in different countries:

1.- Inclusion:
- Need to establish a general legal framework for all groups of telecommuters, with particular emphasis for each group through the regulation of laws, decrees or other legislation. This will protect the teleworker with disabilities and other vulnerable groups, because in this way it may give protection against all forms of abuse. It may also establish mechanisms to increase the attractiveness of hiring those vulnerable groups who are normally not taken into account. For example, this would help those workers who usually have no job opportunities, to perhaps enjoy probationary periods so that companies lose their fears and learn in practice about their true performance and productivity. It is also recommended to establish regulations that allow for the fact of working, do not exclude vulnerable groups and social benefits that have been granted earlier.
- Develop policies, incentives and resources to provide the necessary (legal, economic, technological, etc.) framework. This will allow the large-scale development of the practice of telework in the public and private sector, and especially to promote training in new technologies.
- Promote practices and corporate social responsibility to set new standards for the inclusion of vulnerable groups.
- Work to disseminate information about the nature and benefits of teleworking, show the benefits for employers and for teleworkers. This requires engaging the media, mainly the state, in order to ensure dissemination and understanding of this new form of work.
- Under the philosophy of inclusion it is required to ensure that schools, colleges and education centers regularly integrate people with disabilities. This will allow greater acceptance and familiarity with disability in particular from an early age.
- In line with the above, computers, peripherals and software applications need to be included in the special schools to achieve the "naturalization" of technology use.
- It also requires the adaptation of technology resources to new practices as well as the special characteristics of each disability and each person. In that sense, expertise in technological adaptation is required in order to train others.
- Need to generate agreements between government agencies, universities and NGOs, to assist training in new skills for telework and the professionalization of these new modalities

---

[1] See the Epilogue for more information about Telework 2010.

work. Also so they can set new standards. We suggest supplementing with internships at a distance. Reconcile with inclusive forms of work and cooperation.

- To overcome the tendency for isolation and segregation, telework should be mixed whenever possible, i.e. not just working from home but set some time for interaction and presence in the enterprise, since relationships change with direct contact.
- Use, disseminate and apply the findings of intensive research and recommendations from Telecapacitados (www.telecapacitados.tic.org.ar) working on including people with disabilities through telework.

2.- New labour relations: telework and flexible working.

- Flexibility should be considered as a principle in the law of telework. On the other hand, it should encompass the concept of flexibility within its various multidimensional types, based on respect for the autonomy and independence of the worker. In this sense, telework should not differ at all from working face-to-face.
- Agreements between telecommuters and entrepreneurs should be based on a culture change and paradigm for all productive players, also including unions and business organizations.
- Organisations need to develop management policies aimed at ensuring work conditions, such as social security, wages, evaluation mechanisms, monitoring, control, feedback.
- Telework involves organizational change and communication. Basic agreements include:
  - Whether the contract is for an indefinite period or for a limited time.
  - Performance evaluation and career development.
  - Materials and work equipment.
  - Manual (handbook) of procedures.
  - Technology platforms, ICTs with peripherals and special applications if required (especially for hiring telecommuters with disabilities).
  - Code of ethics and conduct.
  - Diagnosis before recruitment (personal, familial and environmental) .
- The right to freedom of association and organization for teleworkers must be included and social security ensured.
- The role of the state with this new way of working must consider the heterogeneity of different forms and conditions of teleworkers (low dependency ratio and duration of work for teleworkers).
- Must have public policies, laws and regulations, international conventions, in particular telecommuting and personal data protection, and punishing spam.
- State enterprises should include telework in their roster for meeting quotas.
- Promote subsidies for hiring staff in the form of telework.
- Public policies should aim to ensure connectivity, and give priority to broadband Internet access from the home or through community access centers to ICT, training, dissemination and upgrading programs.
- Develop public policies aimed at land use planning, improving the quality of life, and environmental preservation.
- In the area of international law the law more favorable to the teleworker should apply.

3.- Sustainable Development:

- Sustainable development must be understood at three levels:
  - In social terms, sustainable development is the ability to achieve environmentally friendly development that is inclusive of all people and workers on the basis of the preservation of ethical values, equal opportunities, equity and intergenerational sustainability, i.e. that present generations will not compromise the future of later generations.

- In economic terms, sustainable development requires a steady and sustained growth of wealth produced in a given country at a given time.
- In environmental terms, sustainable development is related to the care and preservation of our natural resources, preserving and respecting the rights of individuals.

City of Buenos Aires, Argentina, the 27th of August, 2010

TELEWORK IN BRAZIL

Alvaro MELLO

Member of the Board of the ITA and organizer of the Telework 2003 in Brazil

Information and Communication Technologies are currently embodying a new concept in terms of work practices, in the daily activities of organizations. Organizations, which were until recently seen as geographical entities, will be growingly understood as a network, that is to say, a physical-virtual labor organizational arrangement. This in turn will provoke crucial changes in the entrepreneurial organization and culture, and therefore the distinction between employee and self-employee will become more diffuse, as well as the definition of workplace.

These changes in the entrepreneurial environment within a larger globalization context, and also one of market liberalization, are becoming the daily routine of organizations. For that reason, in order to survive in this turbulent environment, companies are incessantly seeking coherent responses in their businesses, organizational structures and labor formats. From this perspective, telework emerges as an interesting alternative of corporate management, under the approach of flexible work alternatives so that organizations might become more competitive and dynamics, i.e. different from those which are still used to stability and to the routine of traditional labor schemes.

The idea of telework in Brazil is not, in fact, a new one. It started to be used in primitive formats during years, by salesmen and commercial agents that visited their clients in places different from the workplace. But afterwards, what is really new in this area pertaining to labor organization, both in the public and private sectors and independently of the size of the company, are the telecommunication and information technology networks, which, with reasonable costs and offering high organizational performance, became constant and fundamental partnership in the management of successful organizations.

Telework is considered to have been officially introduced in Brazil and in Latin America on August 20, 1997, on the opportunity of the "Home Office/Telecommuting Seminar– Business and Work Perspectives for the third Millennium" an event organized by the company Brasil Entrepreneur S/C (at present Beca e-Work), which was attended by 300 participants. On the occasion, the first book in Portuguese was launched in Brazil and in the region, under the title "De Volta para Casa - Desmistificando o Telecommuting"(Alvaro Mello)[2].

It should be highlighted that, in 1986, the Rio de Janeiro branch of the public enterprise SERPRO had already made some endeavors in this regard, implementing a pilot Project involving four employees engaged in software development. However, this experience was discontinued. In the corporate area, in the year 1988, entrepreneur Ricardo Semler innovated in his company, the Semco, encouraging its managers to work from home, thus following his own personal experience. In turn, in 1996, the Serpro's Florianopolis office reintroduced the idea of implementing telework with all the employees, but encountering serious resistance. Consequently, the idea was once more abandoned.

In 1999, the São Paulo Regional Administration Council – CRA-SP created an Excellence Group under the denomination "Telework and New Forms of Work", known today as the "CTMC – Technological Convergence and Corporate Mobility", with the aim of discussing and disseminating information on studies and practices in Telework, in the area of corporate mobility and digital convergence. Among its activities, this Excellence Group organized the following: launching in 2001 of the book "*Telework – O trabalho em qualquer lugar e a qualquer hora*"[3] (Alvaro Mello); conference given by the renowned North-American Telework Consultant Gil Gordon (2002); the group was

---

[2]*Free translation: "Returning Home – Demistifying Telecommuting"*
[3]*Free translation: "Telework – Working in any place and at any hour"*

also represented at the ITF - International Telework Foundation (at present the ITA - International Telework Academy) meetings in Tokyo, (1999), Stockholm (2000), Amsterdam (2001) and Badajoz (2002); in 2003 it organized jointly with the ITA, in Sao Paulo, the international event Telework 2003, when the book "Estratégias Empresariais e o Teletrabalho"[4] (Alvaro Mello) was launched; in addition, on that same year, the FLAT - Latin-American Telework Forum was organized at the CRA-SP. On July 29, 1999 the Sobratt - Sociedade Brasileira de Teletrabalho e Teleatividades[5] was set up, which has organized and attended local and international events, such as the FBT - Brazilian Telework forum (2005) and the "Expert Workshop – Telework in Latin America and the Caribbean", organized by the IDRC - International Development Research Center, in Uruguay(2005).

In September of the following year, the 2006 CBT was organized - Brazilian Telework Congress, in São Paulo.

Again in 2006, the Serpro reintroduced the topic on telework and implements with success the telework pilot project.

In 2009, the book *Teletrabalho – Alternativa de Trabalho Flexível*, by Joselma Oliveira was launched. Oliveira was the coordinator of the Telework Project at the Serpro.

In the period 2007-2010, the CRA-SP and the Sobratt organized several events on topics related to Telework, such as work at a distance and sustainability, telework as an opportunity for the disabled, corporate mobile solutions, management of knowledge and telework.

In addition, some Sobratt members, in representation of Brazil through the submission of papers and conferences, took active part in the following international congresses: III CIT - Ibero-American Telework Congress (Colombia) ; II CIT - Ibero-American Telework Congress (Argentina), International Telework Congress (Costa Rica) and at the Telework 2010 (Argentina).

The initiative of the BSP Business School Sao Paulo should also be highlighted, with the setting up, in December 2009, of the GESTEC - Group for Studies and Research on Management, Work and Technology (at present the CETEL – Center for Studies and Research on Telework and Alternatives of Flexible Work) having as its main academic focus the Telework and the modalities of flexible work.

CURRENT OVERVIEW

- We may see in Brazil´s labor market different telework arrangements. This labor arrangement, therefore, has several denominations and is performed also in different ways. For example, in the case of repetitive works, such as data transmissions, rendering of services can be done from the teleworker´s home, through a terminal, or using a satellite network, while in the case of works requiring closer contact with clients and with colleagues working at the company´s premises, hoteling or movable working are recommended. Regarding the experiences with telework in the country, the following organizations must be mentioned:
- At the Bank of Brazil, in-house auditors are regarded as part-time teleworkers. In areas such as technology and equipment maintenance some duties are performed as distant work (on a partial basis) or directly from the employee´s house;
- KODAK do Brasil used to have approximately 120 employees in the administrative and sales areas working from their homes. In this case, some R$% 3.5 million were invested in equipment located at the homes of these employees.
- In the case of *SAP do Brasil*, which used the *hoteling* system, there are only tables available for one third (1/3) of their 220 employees, as they spend 80% to 90% of their time outside the company;

---

[4]*Free Translation: "Corporate Strategies and Telework"*
[5]*Sobratt – The Brazilian Telework and Tele-Activities Society*

- In the case of the IBM, the sales representative, when coming down by the elevator of the company´s building in São Paulo, he types his name using a computer located at the entrance hall, and he waits for the response indicating the table he will be using on that day, and to which any calls will be transferred. Upon arrival, he connects his notebook to the IBM network. Checks his incoming mail, logs in to the data base and starts working. The IBM World Project (Mobility), which was launched in Brazil over a year ago and already with 500 members, achieved an average increase of 82% in terms of productivity of employees. They have complete flexibility to manage their working hours and the communication with clients is done by email and mobile phone.

In this way, Telework is overarching, encompassing not only private companies but also the public sector, because telework is already creating productivity evaluation mechanisms, being fully aware that the quality of life of Brazilian public servants is directly related to an efficient production scheme. On the other hand, call centers/contact centers are starting to use telework also as a solution for the inclusion of the disabled, of pensioners and of people with reduced mobility.

Remote work, or telework, is already present in 25% of the Brazilian companies, in accordance with the research study disclosed by the Center of Studies on Information and Communication Technologies, the CETIC-Brasil 'Telework is present in 25% of companies', James Della Valle, INFO Online (May 4, 2010), also considering that there is a variety of definitions and criteria referring to the practice of Telework in Brazil.

Hence the reason to believe that there are far more teleworkers in the country, when compared to the existing official statistics, than actually reported, as there is already a number of companies in Brazil that are officially allowing their employees to work outside the company, either at home or in places other than the headquarters or the branches. Among them, most of the companies are foreign entity capital, such as the IBM, DuPont, Avon, Nortel, Shell, Ticket, Kodak, Citibank and Price Waterhouse Coopers, as well as the Brazilian companies Natura, Uranet, Avape, Redecard, Virtual Call, Cobranças Services, Movicarga, Cosipa and the Semco (Sobratt).

It is thought that these data will certainly confirm the relevance of the ICTs and of the internet in the economic development and in the change of behavior of companies and society, in relation to the organization and to the flexible forms of work, as in the case of telework.

It is therefore established that telework is having growing diffusion among the organizations in the country. Specifically, we may see that the number of companies offering their employees the possibility to work outside the office is increasing, while many professionals will finally adopt this arrangement. Therefore, although Anglo-Saxon countries were the first to test this initiative, at present telework has become normal practice in any part of the world and with great perspectives for growth in Latin America and the Caribbean.

This situation was assessed by the company Virtual Call, which operates in the Call Center segment. The company was set up in 2007, pioneering telework with over 400 employees, all of them working from home, and being monitored by supervisors who, in turn, were also working from their own homes, and using specific software to carry out their duties.

On the other hand, some new facts that portray an evolution in the Brazilian society are related to the interest in telework.

The first of them refers to traffic jams, both in urban and non-urban areas, in the main villages of the country, when certain regions become practically inaccessible on peak hours. Organizations are therefore being forced to consider new options in order to reduce the need of their employees to travel from home to the office, thus facilitating mobility and reducing pollution and CO_2 emissions (carbon dioxide), especially during the 2014 World Cup and the Rio 2016 Olympic Games to be hosted by Brazil. These questions, associated to the need to balance professional and personal life have also other benefits, such as reduction of stress caused by pressure on results. In addition to the improvement of the quality of life of society, avoiding traffic jams, carbon emissions and hours of unregistered non-productivity. Another situation refers to the

development of the society in connection to telework, referring to a larger negotiating power of some categories of professionals, especially the experts and consultants in the area of IT. Specifically in this regard, telework is a manner of making more employers more attractive to this category of professional. This mechanism is related to the conclusive development of society that can be related to telework: the progressive desire to synchronize private life with professional life. In this manner, telework may provide the flexibility in terms of working hours and workplace, so as to allow more balance between private and professional life. A teleworker, for example, in his daily work, may start the day working for half an hour, and then he can take his children to school, return to work, have lunch with the family, return to work again, have dinner with the family, play with the children, take them to bed and finally, work again.

Telework legislation, in Brazil, is seen as highly necessary, fully and legally complementing the contractual nature of the arrangement. The Chamber of Representatives has already approved a Draft Law in two commissions, being currently under detailed consideration before final approval. In this regard, these initiatives had the support of the Sobratt, and of institutions such as the CRA-SP – Regional council of São Paulo, the ABRH-SP – Brazilian Association of Human Resources and the BSP Business School São Paulo.

On the occasion of the Telework 2010 in Buenos Aires, in August 2010, under the efficient and effective coordination of Mrs. Sonia Boiarov, it was clearly seen that Telework is in full expansion, in the Latin American countries and the Caribbean. Some countries, aware of their own social responsibility, are using this form of work to assist rural areas, through call-centers, allowing people living there to become aware of all the technological advances that allow then to enjoy rights and benefits.

The need of all countries to improve the legislation on telework was also noticed, as a means to grant more safety to the parties, i.e. company and employees.

Focusing a joint work, to strengthen governmental awareness in all the countries present in Congress, the FIDT was set up (the International Forum for the Development of Telework), having consequently some suitable documents for the countries that develop such a form of work.

Telework is, therefore, a work arrangement that offers relevant benefits to companies, the flexibility for a balanced coexistence in the family, responsibility at work, in addition to reducing stress and expenses of constant travels to and from the office. The business world is rapidly departing from the Industrial Age and entering the Information Age, requiring therefore new styles of leadership, such as the use of telework. However, there are companies that are concerned about the use of this work arrangement, even considering that telework is a successful style of work, something that clear and specific legislation may resolve.

At the work place, as well as in other contexts, changes in the working environment will always be there. However, it should be highlighted that in the assessment of long-term demographic and technological tendencies they do not merely speed up the rhythm of change but also they launch new and difficult challenges, placing significant risks for the emerging agenda of growth of many organizations, particularly those located in Latin America.

Hence, agents must manage the changes bearing in mind better ways of mitigating discontent of the workforce, competing to attract and retain the best talents, fulfilling increased expectations of employees and provide support to virtual work, through telework.

In this manner, with publications such as this one and also with conceptual texts and successful cases from other countries, awareness becomes essential, especially in Brazil and Latin America, which, through telework, will foster the use of sustainable concepts and practices within the community, as well as the increase of productivity, and also contributing to reduce traffic jams, the emission of greenhouse gases and the pollution of the atmosphere, with significant consequences in global cooling.

Telework, Subjectivity and Social Bonds

Vanessa E. CRAVERO

Labor and Organizational Psychology Specialist. Freelance Consultant.
Cordoba. Argentina.
vanessa@craverconrero.com.ar
vanessa@yahoo.com

ABSTRACT

This paper seeks to reflect about Telework with the aim of raising some questions about the changes telework generates in work organization. This new type of work organization resembles the idea of an interconnected network of flows, which are coordinated through their knots by self-organized groups, without any of them being the central one. The paper also seeks to discuss about transformations in social bonds and the construction of subjectivity. Ultimately it tries to update the debate on work centrality. The discussion aims at exploring ways of professional intervention and to promote these practices, to contribute to the development and implementation of programs, to think about its foundations and, for example, if companies are trying to perpetuate an existing model by implementing a new strategy or are instead supporting the emergence of the institution through a new labor practice.

Key words: Social production of subjectivity – Work organization – Binarism.

1. INTRODUCTION

This paper aims at thinking about Telework initiatives (i). Being a growing phenomenon (ii), it is not intended to analyze it exhaustively but to raise questions in order to provide guidelines on how to address it professionally, because telework is not only a different work arrangement, because it also invites us to think about the dramatic transformations it entails.

On one hand, it is intended to think and question about the changes it generates regarding the work organizational logic. To this effect it posits the ideal of interconnected network of flows, coordinated in their links by self-organized groups where none of them is the center, producing shifts in terms of the power dynamics. On the other hand, this paper intends to think about the transformations in social bonding and in the construction of subjectivities and, ultimately, on how it updates the debate about work centrality.

All things considered, the proposed thoughts are not looking for an empty place but instead they seek to explore ways of professional practice, seeking to contribute with the development and implementation of programs that promote these practices, and also to think about its foundations and if, for example, companies are trying to perpetuate an existing model by implementing a new strategy or if instead they are following up the emergence of the institution which involves a new manner of work.

2. CONDITIONS FOR TELEWORK

Castoriadis invites us to think from a social-historical perspective. Somehow he warns us that neither synchronous nor diachronic simplification permits a broad and deep approach which will in turn allows us to consider [telework] in terms of professional intervention.

We may then think on the multiple and reciprocal interactions that generate the conditions for the emergency of Telework. Assuming that this is a fragmented appraisal, the chronological

presentation of some milestones for telework will provide aspects of the diachronics that helps to illustrate this phenomenon and also to diversify our thoughts on this issue.

Some Telework initiatives were proposed in the late 50s during the years of the post-industrial society. Great expectations were created around Telework during economic crisis of the 70s because it was necessary to evolve from a fixed production system to a flexible system capable of adapting itself rapidly and at a lower cost to market demands and changes (post-fordism). However, by that time the development of the ICTs was reduced, thus preventing Telework from experiencing real growth (iii). Instead, we find outsourcing and flattening and reduction of organizational structures. Telework was still barely practiced in the 80s. Pilot projects failed to succeed mainly due to corporative resistances to deep changes in work organization. It was during the 90s that these projects were fuelled by the spread of the ICTs (De la Cámara Arrilla 2000; Lenguita, P. Duhalde, S. Villanueva, M. 2005).

The regulation, too complex in view of the diversity of telework, arrives in Italy some years later (1998)(iv) and the European Union (2002), with the approval of the European Framework Agreement on Telework. However, this represents a crucial aspect in most countries where Telework is implemented.

But … which other aspects of the 90s, besides the development of the ICTs development, can explain this renewed momentum of Telework? This decade presents the workforce, composed especially of professionals, with high expectations referring to development and recognition on one hand, and on the other, organizations which were barely prepared to provide opportunities. On the contrary, life within these companies requires the exhaustion of productive time, with shifts that within walls are called "full life", preventing these needs from being displayed during leisure time, the latter becoming progressively shorter. The global employment crisis occurs simultaneously with the debate about the role of the family, the use of free time, the importance of quality of life and the claim for equalitarian access, without restrictions on gender or physical condition. This encourages the revision of work organization.

In opposition to the precepts of modernity that establish the separation between substantive rationality (ethics) and the rationality of means (results), moving ethical proposals to the private sphere (vi) today's worker is increasingly wondering about substantive rationality and rationality of means referring to the work he/she performs within those organizations. This separation of rationalities, roles and places led, among other things, to a change in the central role of the family as social life organizer and to the delegation of functions to different organizations (school, hospitals, etc.).

Paradoxically, current phenomena such as crime, insecurity, addictions, and so on, are explained by the crisis of values that were usually nurtured within the family. That is to say, the question of quality of life does not only refer to the organization within which workers do their job, but extends to the network of institutions and organizations involved in social life.

3. WORK, INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTs) AND THE PRODUCTION OF SUBJECTIVITY PRODUCTION AND SOCIAL BONDS

The acquisition of technologies involves a cumulative process of development of categories for action and knowledge that are the basis of their effective utilization. It could be said that new methods of work appear (i.e., work from home, in a remote office, and so on.) as well as tasks that are performed differently. This in turn gives rise to the need of other skills (time self-management, self-control, and so on) and even the entire organization must undergo other changes which in some cases are barely perceptible. How can we think in the changes that these processes (which are experienced as normal ones) cause in the constitution of groups within the organization and how does this affect the construction of subjectivity? According to Crozier y Friedberg (in Villavicencio D., 2006) people in an organization are actors who are applying a game of contingent relations that

establish limits to their productive and social action, that is to say, people are not a kind of disciplined entity without projects or transaction resources. The use of their skills, of their expertise, the position occupied, their personal backgrounds, all these are aspects that can be used as negotiating resources. In addition, the changes introduced by the ICTs are, compared to those in previous decades, more and more entrenched and naturalized, being therefore a difficult task to interpret the deep effects produced in the weave of relationships.

How to understand or address the practices of Telework in relation to the concept of subjectivity? According to some statistics (De la Cámara Arrilla, 2000), Telework has disseminated widely among college populations. The skills required to have access to telework explain in part the statistics (command of ICTs, the possibility to complement the absence of daily links with initiatives beyond work, self-management of time and so on). It will be necessary to address the new exclusions that are present and that are overlooked behind the benefits of shortening geographic distances and time. From the technical / instrumental aspect, the exclusion (i.e. those with access to technology and those without) is more complex in view of the exclusion caused by the conditions of use, that is, the necessary operational qualifications and the resulting relationships that emerge.

Taking everything into account, it is interesting to bring to light the effects or implications of these shifts on the subjective sense (González Rey, 2005) considering subjectivity not as something inside oneself but as social subjectivity, that is to say, the one that exceeds the physical limits of the individual and that responds to this individual in action and context.

The notion of Social Imaginary proposed by Castoriadis (in Fernández, 1993), refers to the number of meanings through which a society or group is established as such: to do it, the society needs to invent not only its social relationships and modes of contract, but also their subjective figures. It constitutes its universes of *social imaginary meanings* (vii) that operate as the *meaning organizers* of human acts in each social/historical era, guiding and leading the life of the individuals within a society, establishing what is permitted and forbidden, valuable or not; and providing the attributes that define what has been instituted as legitimate or illegitimate, and signification universes that operate as the meaning organizers of human acts in every social/historical era, guiding and directing the life of those individuals that form a society, establishing what is permitted and what is forbidden, valued and undervalued, giving attributes that define what is legitimate or illegitimate, and expressing consensus or disagreement. In this regard, it is interesting to know how the idea of a worker at home (outside the factory / office / company) operates within the framework of the collective social meanings. The meaning of the term "home" refers to private, intimate, and is also associated to "feminine", "absence of work" and therefore "absence of pay". The choice of the worker is invisible here. Once again, the fact of being "different" would be a synonym of negative or inferior. Some teleworkers might summarize it like a myth, because "working at home means not working at all", and this in turn may result in deep effects in the subjectivity and identity of workers.

Telework and particularly *Work from Home* seek to establish new patterns of thought about work and about the relationship among workers in a dialectic game of "invention" that creates new realities that reinforce the invention. Moreover, ICTs contribute to the division of occupations, reinforcing the difference between manual and non-manual jobs and consequently, the recognition of the job. The same applies to the question on the remuneration and on how successful careers (or failures) are defined, impacting directly the social construction of subjectivities.

The question of the social imaginary in terms of universe of meanings that establish a society is inseparable from the problem of power. To place the nature of power implies a question about the registration of mechanisms not only in the organization of a society and its institutions, but also its inclusion in the subjectivity of men and women.

Power, understood as the balance of forces, invites us to think about control mechanisms. The panoptic device (viii) which characterizes modern society and control permitted the monitoring of a group of people without the controller being present. As the person monitored is unable to

see his/her situation in relation to the rest, he/she controlled himself/herself. Telework as an arrangement mediated by ICT continues with this mechanisms but allows the installation of multiple relationships that were unconceivable before.

The difference between the organization and telework is that in an organization "Everybody in his/her own place is locked [in the office]. They are seen, but they cannot see, they are objects of information, but never subject in a communication. The crowd, compact mass, place of multiple exchanges, merging individualities, mass effects, is cancelled in the benefit of a collection of separate individuals" (Foucault 1989), while in the case of telework a logic of inclusion within a network is installed. Terms such as like "being connected" are used to refer to a specific technological event but also and implicitly, to the ability to interact with others, notwithstanding that they are not sharing [common] spaces and times makes multiplies infinitely the possibility of interactions, even simultaneously. In this regard, control is not unfeasible from a technical perspective, although difficult, considering the magnitude of relationships that can be established. Since Telework facilitates the simultaneous interaction of a large number of people without the need to share a certain space, it will probably be required not only to have technical training that will permit them to have proper access and to use electronic media, but also to study languages and cultural codes. In this regard, it involves the effort of the organization in providing alternate means to the worker so that he/she can have the feeling that they belong to the organization (Bélanger, 1999). It could also be possible to think about mixed modalities where teleworkers do their duties in different locations, but having regular meetings to interact personally, by video conference or in purely social activities.

It is interesting to think about the new ways of distributing and holding positions of power to be created within the virtual network of workers. The term teleworker, in general, i.e. somebody that works having some type of knowledge, encourages us to think about other ways of organization, either independently or within the post-fordist company. Gorz (1999) refers that "The paradigm of the organization is replaced by the network of interconnected streams, coordinated in their links by self-organized groups, where none of them is the center. Instead of a centrally-hetero-organized system (like the Fordist model), we have an off-centered self-organized system, comparable to the nervous system, which the interconnected networks try to imitate".

The panoptic device automates, de-individualizes control and, therefore, power (Foucault 1989). In the case of Telework, power is not only de-individualized, but also "de-humanized", that is to say, the control and the observation do not merely imply another subject, but it is the technology that also has that power.

Then, what connection, bond, or link can be built out of this logic? What difficulties and possibilities does the ideal of the network have in the construction of subjectivity? The habits of teenagers, with their means of attachment, expression and dialogue is portrayed in the "Chat", may be of help to think about this. The novelty of this logic produces simultaneously fearful adults and young people constructing in a different area. Is being *different* labeled once again as negative and harmful?

Moreover, what happens with the relationship in which knowledge is shared by someone that knows more? It seems there is a shift from the source of power in the system based on authority to the system based on skills (Mintzberg, H. 1992).

If modern society, with the emergence of the organization as "universal standard of social structures" (Lapassade and Loreau 1973) involved a large concentration of power in these areas, Telework could be seen as a threat to that concentration of power, since it would be distributed among different nodes of the network. In this sense, Telework reinforces Foucault's idea of the strategy without a strategist. This contributes to generate resistance to this modality from the middle management but also from the upper management and from the individuals with more power in the organization.

4. THE BINARIES

In the pre-industrial society the work was integrated to the family, to the home, including the rural work outside the home, which was performed in an area close to the family. The industrial era offered people a different location, not only because they had to go and work at the factory, but also because many of them abandoned their activities (rural workers, craftsmen, etc.) and became the workforce of a factory or plant.

Thus, with the modern and industrial society the binary of personal life versus work life is established and consequently that of personal development versus professional development. The idea of efficiency was also established, creating another binary, i.e. free time versus productive time, where the efficient use of time involves the "exhaustion" of time, devaluing leisure time and rest time. That is to say, from the perspective of the meaning of words, *leisure* time reveals some kind of inferiority or inequality when compared to *productive* time.

But this restrictive division of time makes invisible or devalues the free time during productive hours. It is common to hear phrases like "at a meeting again, when are you going to work?" That is to say an exhaustive and unrealistic division and devaluation of workspaces involving collective production is established. In this context, what could be thought about the subjectivity constructed in these spaces? It is striking to note that some of the arguments against telework are related to discourses of fear about the loss of the work bonding component. However, it seems that behind these arguments, there is the concern of losing a type of bond which is the bond of control, for example, that of the leader vs. follower.

The concern is different if we think about the construction of subjectivity as a collective process. How will the displacement of the physical daily space as a meeting point impact the construction of the subjectivity and of social bonds? What is lost and what is achieved with Telework?

It is interesting to think for a few seconds why Telework is labeled as an "alternative" and to recall that the choice of this word also means taking a position in relation to a center (Fernandez, A.M. 2009). In this regard, it seems that is an alternative to the "normal" work (associated to pay, working outside home, a regulated job, etc.). The challenge is to consider and make proposals beyond those centers, trying to think from the difference without connotations. In the words of Deleuxe "think the difference of the difference."

The focus will be on Telework as a personal choice (one out of many others equally valid) stemming from the wish of the worker and not just as a measure proposed by the organization as part of its strategy towards flexibility and in view of the need to cope with crises and contextual changes.

It seems that after the institutional force, new meanings appear that lead people to think on a work of a poorer quality, or of a lower hierarchy, performed by a minority who does not choose this arrangement but assumes it passively and that, without a proper look and approach, can potentially polarize the workers inside or outside the system even more. This is very relevant because the social imaginary operates as a silent centrifugal force that can prevent or discredit what it is thought or done in relation to a certain order of things.

It is necessary then to encourage different 'ways of thought' trying to supersede the episteme of 'the one' that dominated modern Western knowledge and which led [people] to think separately what [people] are now trying to liaise (Bozzolo, 2008).

5. THE PROFESSIONAL INTERVENTION IN THE NETWORK

The above has impacts, from a professional and ethical perspective, when we think about intervention. It will be important to consider the network of relationships in the organization and how the particular history and social relationships are established; the culture that is lived and

advertised; the conflicts of interest, and so on, which altogether provides a framework (to the organization].

In this context, the main tool is just to ask questions. For example, what happens when there is no market or business condition legitimizing this type of work (Telework), what happens when the market does not request it ... but the worker does?

Some companies consider that telework is a tool that addresses their need for national positioning, for example, those which the parent company cannot be located in the same place of the production centers or clients, such as banks, hypermarkets, the food industry, the concrete industry, among others. Others view telework as an alternative to include people with different needs and in this sense they seek to retain their "talents." Others see telework as a way to include handicapped people, as part of their CSR (Corporate Social Responsibility).

In this regard it is important to think if Telework implies a first or a second hand job, reserved for those with disabilities, or with different desires or gender. It is then necessary to consider how to establish clear and fair rules to ensure that telework is actually a legitimate type of activity. For example, criteria for staff promotion should be explained and made clear if those who telework are included in the plans in case of vacancies or not and if positive, if the change of position would be included as a teleworkable activity.

On the other hand, many occupations or roles cannot possibly be performed through telework, at least in the manner in which the organization has been conceived so far. A review/revision of the design of structures will be needed, as well as of tools available. The question also raises professional challenges in terms of power distribution and management, the skills of teams of teleworkers and in this regard, how to help to create the necessary conditions for implementing this modality? How to select and train competent leaders to work with teams of teleworkers, how to follow-up training of skills needed to telework? How to think the group under this new modality? What mechanisms will have to be provided? How can be the bonds and the group dynamics be strengthened in a virtual modality?

6. FINAL CONSIDERATIONS

In this section, instead of conclusions, we will present some ideas and a number of questions, taking in consideration that in Social Sciences statements contain just part of the "truth" or "reality", while hiding another part or reality at the same time, especially because Telework is a contemporary phenomenon on which new knowledge is being built.

The organizations were introduced by Modernity. However, no new functions or duties were introduced at that time, because the duties that had been established or constructed within the family or within the social reference group were organized in new places and under new rules. That is to say, the innovation did not consist in education, because innovation was merely the *school.* Along this line of thought we might say that the core interest of Telework lies in the function, and secondly in the organization. The question is then, how to sustain the role outside the organization. And how can we do it within the organization but outside the building? There is however one more powerful question, behind the two above: will organizations be the place where people develop their professional careers in the future?

In the words of Gorz (1999) "Is time to think the other way round: to define changes that should be made on the basis of the ultimate purposes that we wish to achieve, instead of defining the purposes on the basis of the means available and of the solutions immediately achievable."

In this sense, Telework has to be thought as a means to reproduce a given order but changing the context. Or, on the other hand, it could be thought as a way to think work and worker from a different perspective, as a way of integrating the activities of daily life, providing a space equivalent to other aspects of human life – and not necessarily as the main or the only one. How can we think about it as a means of inclusion without installing inequalities at the same time?

Gorz argues that this change is possible but that it implies abandoning some magic and instantaneous ideas that belong to the model that was installed with the "wages" society and its promises of satisfying all the needs [of the worker] and achieving happiness and progress. It is necessary to start building the world that this author calls the *exodus*, that is "... to begin to be aware of the fact that it is becoming possible to build a society upon, below or adjacent to the one that is terminating. It will not cease to exist, but no one will find a way into it. No one has a place. To have a place today, you must be located outside "(Gorz, A. 1999).

How to merge what is separated? How to overcome the contradictions and the mandates that were held for decades? How to help to install in the collective imaginary the idea that the person who teleworks ... really "works"? How does this integration permeate the gender issue? How to ensure adequate regulations that qualify Telework as a dignified work? How can we innovate without reproducing the corporative logic at home? Perhaps the relative innovation of Telework, especially in Argentina, will be the ability to prevent the precipitated habit of using a-historical and universal categories, inviting instead to think and problematize, because, as Gorz notes "(...) we do not understand more than what we know and we only know what we are capable of understanding. If we perceive and interpret new things using the old interpretive and cultural stereotypes, we are still blind to innovation. "

Is Telework an "alternative" that updates a model or concept or the institution of work and with it, subjectivities and relationships that are built? Is Telework an institutive force trying to modify the institution of work or to challenge its centrality?

Probably part of the answer is related to the environment in which it is implemented and the interests which it tries to address. From the company's perspective, in the framework of policies and needs of adjustment to market's logic, it could be said that telework could increase the power of the panoptic device: the electronic super panoptic.

Also from the workers or organizations viewpoint, which are seeking to create workspaces enabling the development of other aspects of the life of the worker – i.e. balance between work and personal life.

It could be said that it is at least a path in which workers may think about their relationship with work. Somehow it refers to the debate on the centrality of work in the sense of work = job; because telework includes not only remote work in the context of the dependency relationship, but also allows us to think about a different relationship with wages and with productive organizations. It opens the space for the invention of other forms that can integrate the diverse interests and vital needs of a worker.

Notes

i Thanks to Mr. Fabio Chiarini for the translation from Spanish to English.
ii For the purposes of this paper and according to the ILO (International Labor Organizational) Telework means the "*work carried out in a location remote from central offices or production facilities, involving new technologies that allow separation and facilitate communication*"
iii "Particularly in Argentina, last year this method increased by 20% compared with the previous year, bringing the population of teleworkers amounting to 1.8 million people," according to study published in the newsletter "Feedback" from Carrier and Associates Consulting. May 2009.
iv Information and Communication Technology
v N. Law 191 of June 16, 1998 regulated the implementation of Telework in Public Administration (Lenguita et. Al,2005).
vi Montenegro, Roberto. Classes of Labor and Organizations Sociology. Seminar for the Specialization in Labor and Organizational Psychology. June 2009.
vii "It's a ring-shaped construction, is in the center a tower with wide windows that open on the inside of the ring. It is divided into cells, each of which crosses the entire width of the building,

these have two windows, one facing the interior (for the windows of the tower) and the other to the outside allowing light to pass through the cell. " (Foucault, M., Vigilar y Castigar 1989).

BIBLIOGRAPHY

-De La Camara Arilla, C. España. (2005). *El Teletrabajo, un indicador de cambio en el mercado de trabajo*. Cuadernos de Relaciones Laborales. 17:227-256

-Echeverría, Rafael (2000). La Empresa Emergente: *La Confianza y los desafíos de la transformación.* Ediciones Granica, S.A.

-Fernández A. M. (2007). "*Las diferencias desigualadas*". Ponencia en mesa redonda: "*Multicultura-lismo. Subjetividad y diferencia*". National Library. Buenos Aires.

-Fernández A. M. (2007). "Haciendo Métodos" en *LAS LÓGICAS COLECTIVAS IMAGINARIAS, CUERPOS Y MULTIPLICIDADES*. Biblos. Bs. As. Chapter 1

-Foucault, M., *Vigilar y Castigar* (2002), Siglo XXI Editores. Argentina.

-Gorz, André. (1999) "*El trabajo desencantado*" MISERIAS DEL PRESENTE, RIQUEZA DE LO POSIBLE. Paidós. Bs. As.

-González Rey, F. (2005) "*Subjetividad y Subjetividad Política. Inteterview with the Cuban psycholo-gist.*
Fernando González Rey. Entrevista realizada por Álvaro Díaz Gómez. Retrieved from:http://www.liberaccion.org/Joomla/index.php?option=com_content&task=view&id=59&Ite mid=28&limit=1&limitstart=2

-Mattelart, A. -Garcia Castro, A. (2008) "Sociedad del conocimiento, sociedad de la información, so-ciedad de control -Entrevista con ArmandMattelart", Cultures &Conflits, Inédits de Regards sur l'en-tredeux, , [En ligne], mis en lignele 15 noviembre 2007. URL: http://www.conflits.org/index2682.html.

-Mintzberg, Henry (1992). *El poder en las organizaciones*. Editorial Ariel. Barcelona.

-Neffa, Julio César (2003). *El Trabajo Humano. Contribuciones al estudio de un valor que permanece.* Grupo Editorial Lumen. Bs. As.-México.

-Lenguita, P. Duhalde, S. Villanueva, M. Argentina. (2005) *Las formas de control laboral en tiempos de la teledisponibilidad. Análisis sobre la organización del Teletrabajo a domicilio en Argentina 7° Congreso Nacional de Estudios del Teletrabajo.* ASET Asociación de Especialistas en Estudios del Trabajo.

-López. M (2009) "*Punteos conceptuales en torno a la noción de subjetividad y acerca de los abordajes teóricos sobre las organizaciones*". Material for internal circulation in the School of Specialization in Labor and Organizational Psychology, under the coordination of Dr. Mercedes López. School of Psychology.
Universidad Nacional de Córdoba. *Unpublished manuscript.* "Punteos conceptuales en torno a la noción de subjetividad y acerca de los abordajes teóricos sobre las organizaciones".

-ILO (1999). *El Teletrabajo. El reto de las negociaciones laborales en las nuevas condiciones de traba-jo, Trabajo Nº 30*.

-Villavicencio, D. (2006). *Trabajo, aprendizaje tecnológico e innovación. En de la Garza Toledo, Enri-que (Coord.) Teorías sociales y estudios del trabajo: nuevos enfoques.* 2006 | 412 pp | ISBN: 9788876587898

-Interview to Andre Gorz (1999) by Michel Klotowsky. Clarín and Michel Zlotowski. Translation by Cristina Sardoy. Available at: http://www.antroposmoderno.com/antro-articulo.php?id_articulo=63

-Workshop with Ana María Fernández (2009). El Pasaje. Córdoba.

Strategies for promoting telework in rural communities in Mexico. The case of the indigenous community of Matlapa, San Luis Potosi, Mexico

PhD. Juan Antonio CABRERA RICO

Universidad Politécnica de San Luis Potosí (México)
antonio.cabrera@upslp.edu.mx

ABSTRACT

This article shows a number of strategies that have been used in a pilot project to promote the benefits of telework in a rural community in the State of San Luis Potosí (Mexico) in order to enable people to improve their economic situation. The strategies have proved viable during the time the project was in operation and can be taken into consideration for future telework projects in other rural communities in Mexico and in Latin America.

The research found that when local staff has received technical training to provide remote technical support, a series of strategies become necessary for training and increasing the good use of language, and also to develop the skills to work under pressure, to work in teams and within a result-oriented team.

Keywords: Technology transfer - information and communication technologies – marginalization - rural communities - mobile devices - Mexico - Latin America - telework - innovation

1. INTRODUCTION

Several initiatives focusing telework are being implemented in different cities. This type of work arrangement represents new opportunities for different sectors of the population. However, people who wish to have access to Telework (and organizations that want to buy services at a distance) are based on the presence and use of a certain level of infrastructure, information and communication technologies that commonly exist in areas with a considerable population density.

However, in many Latin American countries there are a lot of small communities with less than 2,000 inhabitants, disseminated in large territories and with limited access to telecommunication networks, and therefore to services offered through this infrastructure.

Coupled with the lack of access to telecommunication infrastructure, there is a problem of low level of knowledge in the use of information and communication technologies, so that these two factors combined (lack of access to infrastructure and the level of knowledge of the use of ICTs) are known as the digital divide. The digital divide is closely related to the rate of human marginalization, so that we can expect very low levels of penetration of ICTs in communities with high rates of exclusion.

This is the case of Mexico, where there are about 198,000 rural communities [1] scattered throughout the national territory and where only about 28% of them have access to basic telephone services through the Public Switched Telecommunication Network (PSTN). The remaining 72 % of rural communities have no access at all. Similarly, we found high levels of marginalization in different areas (central, south and southeast) of Mexico (Figure 1), and therefore any telework initiative in these communities will be expensive and complicated by the high cost of using alternative

telecommunication networks (primarily satellite) for access to basic voice communications and data, coupled with poor knowledge in the use of information and communication technologies.
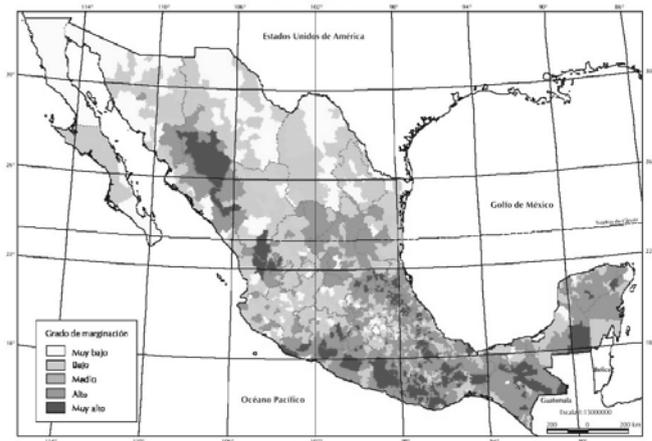

Figure 1 Mexican Districts classified by to degree of marginalization.
(White to reddish: very low, low, medium, high, very high)

Despite these indicators of the digital divide and marginality rate in Mexico, there are alternatives to deploy telecommunication infrastructure at a lower cost in marginalized communities, but always pursuing a clear and tangible objective to bring information and communication technologies to the residents and local organizations. This is the case of the project named "Information and communication technologies for rural communities in Mexico," conducted by the Polytechnic University of San Luis Potosi with its main impact on the State of San Luis Potosi, with an ongoing pilot project since 2007 in an indigenous community in the municipality of Matlapa and where one of the ultimate goals is to provide people with telework initiatives to improve their economic status.

The following paragraphs will explain each of the strategies we have developed and applied in this project to assess the following research questions: *¿What is the level of current understanding of the people who have taken formal training in information and communication technologies to offer their services through telework?, and ¿Is it possible to consolidate a working partnership between an external company that requires teleworking services and this group of people?*

2. STRATEGIES TO IMPLEMENT TELEWORK IN THE RURAL COMMUNITY OF MATLAPA, SAN LUIS POTOSI

The Matlapa rural community is located in the southern region of the San Luis Potosi State in the central region of the Mexican Republic (coordinates 21° 20' North and 98° 50' W). The town has a large indigenous population and with a very high level of marginalization.

The strategies used in the project are:

2.1 Establishment of strategic alliances among members of the pilot project

The project stems from the participation of the Polytechnic University of San Luis Potosi in an international competition organized by the Latin American School of Networks in Merida, Venezuela in conjunction with the International Development Research Centre (IDRC) of Canada. The basic telecommunication infrastructure to be installed in a rural community was donated.

The commitment of the University of San Luis Potosi was achieved by selecting a community with a majority of indigenous population and with a very high rate of exclusion. Four items are highly relevant for the sustainability of a project of this kind: local government, health services, educational services and representation of local trade. The role of the Polytechnic University of San Luis Potosi in the project referred to a center of innovation and transfer of technology under well-defined processes [2]. The partnership among participants is mainly oriented to academic and scientific cooperation. The persons involved are not seeking economic reward with their involvement in the project, but instead the joint development of the community through the different strengths that each one can give to others.

2.2 Deployment of basic telecommunication infrastructure

The deployment and implementation processes of technological infrastructure are based in a systematic sequence and can be summarized as follows:

2.2.1 Training for the technical staff that installed the infrastructure

The training process was carried out in the facilities of the Universidad de los Andes in Merida, Venezuela during the month of March 2007. During the event specific knowledge were obtained:

- Telecommunication basics
- Wireless communication for rural areas
- Means of transmission and access techniques, voice over IP
- Outcome Mapping as a methodology to measure the impact
- Power and protection
- Other.

2.2.2 Laboratory testing

Upon receipt of the equipment at the Polytechnic University of San Luis Potosi, a series of activities were conducted in order to test the performance of the technology received. These activities can be summarized as follows:

- Unpacking the equipment in our facilities.
- Individual tests each of the equipment and accessories received, in order to verify that they had suffered no physical damage.
- Tests with the operating system of the server
- Local connectivity tests using all the microwave radios linked to the central node, with a positive result.
- Networking test with equipment received using wireless Internet service of our University in order to verify this action and proof tested positive.

2.2.3 Installation of infrastructure in the various facilities of project participants

The low cost wireless telecommunication infrastructure was installed at the facilities of the Indigenous University of San Luis Potosi, the City Council of Matlapa and the Maternity local Hospital. Positive results were achieved in each wireless link interconnecting all participants.

The main strategy to integrate the Matlapa population within the project was the participation of four university students (School of Informatics) from the Indigenous University of San Luis Potosí during the installation procedures. These persons achieved the technical skills necessary to give further support to the infrastructure without the need of local support of the staff from the Polytechnic University of San Luis Potosi.

Figure 2. Installation of the telecommunication node

Figure 3. Interconnected classrooms at the Indigenous University of San Luis Potosi in Matlapa.

2.3 Training a key sector of the population in the use of information and communication technologies

A period of training on information and communication technologies was provided to technical operators in charge of the management of the infrastructure deployed. Training concepts refer mainly to the resolution of problems and to the optimization of telecommunication equipment in the infrastructure.

Basic training on the importance of the project was provided to end users of telecommunication infrastructure and Internet services. The potential benefits for the population were emphasized, as they will be able to use the internet as a tool for development.

Some of the courses that were offered to end users were:
- Introduction to Computers
- Introduction to the Internet
- Search for specific information on the Internet
- E-mail and messaging services for people to communicate with relatives in other locations.

2.4 Remote Assistance for infrastructure

Currently, the Polytechnic University of San Luis Potosi offers remote assistance to the project through the Indigenous University of San Luis Potosi (the latter is currently managing the project).

Among the main activities within this strategy we may cite:

- Resolution of problems when detecting infrastructure failures
- Support for the use of IT tools (word processors, spreadsheets and administrative applications).

2.5 Partnership-building with leading companies in the area of information and communication technologies

In order to show the students of computer science the benefits of Telework, we sought strategic partnership with companies which offered distance educational schemes in these subjects.

We established a cooperation agreement with the Cisco Systems company to offer their students courses in IT Essentials. These courses include topics such as personal computers and computer networks (this being the first partnership of this kind provided by the Cisco Academy in an indigenous community in Latin America).

Although there is not a potential local market for graduates of computer science to exercise and apply their knowledge, there is a demand in the major cities of Mexico for technical expertise to provide remote support to clients of these telecommunication companies. This is where the current project matches with teleworking activities.

Thirty-five students from the Career of Computer Science have taken the Cisco IT Essentials course. All these students are assigned to the Indigenous University of San Luis Potosi.

Figure 4. A group of students being trained in information and communication technologies

2.6 Training of personnel on information and communications technologies to provide remote technical support

In order to analyze and assess the possibility for students who have received training in the above Cisco areas to gain teleworking opportunities, contact was made with a telecommunications company in Mexico. This company offers Internet services to customers and also services to customers on a contract basis.

The technical support services are based on detection of problems and their solution. Depending on the technical complexity of the case, there are different levels of services available.

Two processes were used in the solution of basic level failures (basic level of a problem reported by a customer) in the training course devised for a group of students at the Indigenous University of San Luis Potosi, in order to assess their knowledge.

The training consisted of two strategies: a) sending in electronic formats the procedures to students, and b) through a personal explanation of each one of the procedures by an instructor at the facilities of the Indigenous University of San Luis Potosi.

The training was offered to a total of 30 persons, all of whom have received training in Cisco IT Essentials.

2.7 Tests to assess knowledge

Thirty students of the Indigenous University of San Luis Potosi took their tests. The students are currently following their Bachelor degree in Computer Science (fourth and eighth semester.

 The profile of participants is as follows:

- Aged between 18 and 23 years
- From the municipality of Matlapa, San Luis Potosi, Mexico
- Spanish is their native language; they have some knowledge of indigenous languages like Nahuatl and Tenek
- All the students are of indigenous origin
- Everyone living in a geographical area with a very high level of marginalization

The test consisted of:

a. Written examination based on strategies to solve problems according the procedures of technical support and
b. Distance interview to check the student's confidence and how to address (by telephone) a specific situation based on technical support procedures.

3. RESULTS AND DISCUSSION

The results show that in the first instance students who received basic training on information and communication technologies can possibly offer technical support through teleworking. This is so because the knowledge and awareness about technical issues required for this activity can be developed quite easily.

The analysis involved the feasibility of solving problems involving possible failures in a communications equipment connected to the public telecommunication network and allowing connection to the Internet by the subscriber.

Another evaluation was oriented to possible problems related to browsing on the Internet.

Both exercises showed that students had a certain level of technical knowledge that could be useful in real situations. Of course, formal training on the different brands of communication equipment used by telecom companies is needed.

Personal interviews depicted that students were able to give accurate answers in problem-solving situations. However, the type of language used was not entirely correct when dealing with a customer. Customers may be confused when they hear terms that are not properly used.

The personal security of students is essential for a good relationship with customers. This is so because some customers may show anger when they report problems with the service. Or they

may require immediate solution to their problems. This means that the student has to be prepared to undergo a certain level of pressure when resolving the problem.

In this type of remote services technicians have to work under pressure and be objective-oriented (for example, to have enough time to solve a problem and assisting multiple customers simultaneously). Students have developed some type of experience in working under pressure in their school. For example, they have to deliver certain academic projects at any given time and manner. However this is not an indication that the students have passed, because teachers use different learning styles. However, students are at least learning these skills and comparing them to others.

Students must nevertheless work on some specific issues such as:

- Training and topics on personal security in order to establish a fluent conversation with customers.
- Training / capacity building to improve vocabulary.
- Training in the skills required to work under pressure and compliance-oriented objectives.
- Formal training in communication equipment offered by telecommunication companies to their clients.
- Stress to students the importance of compliance with the work schedules established. Also, they need to be available when their services are required.
- Training / guidance on personal financial aspects of students.
- Formal training in issues involving telework and its benefits. Frequently, in rural communities there is some kind of social pressure to get a job within a company that has presence in the community.
- Training in basic negotiation skills.

4. CONCLUSIONS

The research questions raised in this article are:

What is the current level of knowledge of the people who have taken formal training in information and communication technologies to offer their services through teleworking?

The level of technical expertise found in the students of the Indigenous University of San Luis Potosi who have received training on issues of information and communications technologies is acceptable for implementing telework in the community.

However, higher levels of training and counseling are needed in some aspects involving the proper use of language, wider vocabulary, work under pressure, result-oriented work, and responsibility, among others.

A strategy aimed at the telecommunication company that could possible recruit this group of teleworkers would consist in giving support to a geographical region sharing certain cultural values and beliefs, including some indigenous languages.

Is it possible to consolidate a working partnership between a telecommunication service company that requires teleworkers and this group of students?

Yes, it is possible. However, we must take into account the following:

- It is better to have teleworkers within a group in their community, as they can have access to the basic infrastructure to conduct their activities.
- Formal training programs should be established not only on the technical aspects of communication equipment, but also on issues related to the competencies required for the activity (use of language, extensive vocabulary, work under pressure, and so on).
- It is advisable to establish an alliance between the telecommunication company and an entity in the educational sector within the community, as they could train people for this activity.

- Preferably, this group of teleworkers should give technical support to the geographic areas surrounding them, because they share certain cultural values and beliefs that allow them to be identified with the neighboring populations.
- As far as possible, training manuals should be translated into the local indigenous languages, as this would allow family members of teleworkers to have an idea of the importance of the work conducted by young people.
- Use of labor contracts in Spanish and local indigenous languages so they can be interpreted by local authorities and thus provide confidence to the teleworkers´ families.
- This model should be replicated to other geographical rural areas in Mexico.

REFERENCES

[1] National Population Census of Mexico: (2005) marginalization rate of Mexico.

[2] Cabrera, Juan Antonio (2010): A technology transfer model for Rural Communities in Mexico, the case of information and communications technologies. Poland, ORGMASZ Doctoral thesis.

Dison, Hendrix and Grant (2007) Information technology and indigenous people, USA, Information Science Publishing books.

Dillon, P. (2004). Trajectories and tensions in the theory of information and communication technology in education. British Journal of Educational Studies.

Fundación Telefónica (2007), Digiworld America Latina, Spain, Fundación Telefónica.

Cavallo, D. (2000). Emergent design and learning environments: building on indigenous knowledge. IBM Systems Journal.

Battle, D.E. (2002) Communication disorders in multicultural population, (3rd. ed.) Boston: Butterworth- Heinemann.

Keeffe, K. (1992) From the centre to the city: Aboriginal education, culture and power. Canberra, Australia: Aboriginal Studies Press.

Rogers, Everett (2003), Diffusion of innovations (5th. Ed.), Free Press books.

Todaro, Michael (2000) Economic development (7th. Ed.), Addison-Wesley books

TELEWORK: HOW TO CONTROL SOMEONE YOU DON'T SEE

Eduardo Alfredo CASTILLO BUILES

Academic Director
Northern Catholic University Foundation
52 street No. 47-42, Coltejer Building office 702, Medellin, Colombia
diracademica@ucn.edu.co

ABSTRACT

The Northern Catholic University Foundation is a Colombian superior educational institution and the first University in the country to be one hundred percent virtual. It has gained for over a decade of institutional life virtual experience in education. Due to this virtual nature, all of the teachers and a part of the administrative staff are teleworkers themselves.

Based on the above conceptions, media and resources, over 257 people (between teaching and administrative staff) are teleworking at present. In light of this, the results yielded by this experience in its most relevant aspects are a systematization of strategies with the support of technologies for the monitoring and follow up of the teleworkers activities.

Key words: Telework, legal framework, teleworkers´ control, virtual education, communication and information technology

1. INTRODUCTION

Working from home or from any other places with a technological device such as computer with access to the internet can be a dream for any employee. But … will it be the same for the employer? Many enterprises and employers are still wondering how to control those they cannot see or who are not in the common traditional working place. This is in fact the troublesome issue we refer to in this text.

Our purpose at the Northern Catholic University Foundation is to share our experience in Telework as a potential answer to the above problem with the aim of encouraging some reflection, discussion and analysis that may enrich the current trend in this new labor arrangement called Telework. We are aware that in the XXI century this work arrangement is so far a very young concept, while we are analyzing its real possibilities in a world that still carries the entire heritage of the industrial age.

The case in question, i.e. telework, is known as an option for decentralization and for work flexibility.

In addition, it relies on information and communication technologies for the interaction of people, free movement of data, information, products and evidences. It also saves traveling time for people, who would otherwise have to go to their workplaces, and return after work hours; in this regard, fuel economy will in turn benefit our dwindling environment. Moreover, Telework brings more social innovation than changes in the lifestyle or in work procedures (Barba, L. 2001) [1].

Notwithstanding all the good reasons given in the previous paragraph, employers are not yet fully convinced that telework is measured by the productivity of their employees rather than by their physical presence in the workplace. Teleworking is regarded with suspicion every time that strategies, experiences and good practices are required to encourage and prove an employer or organization that the use of this type of strategies is based on tangible reality and not in a good rhetoric speech. Specifically, companies are demanding forms of control, monitoring and follow-up

of teleworkers vis-à-vis the responsibilities they have been assigned. Therefore, this paper refers to the strategies provided by the Northern Catholic University Foundation, on the grounds of the experience and practice in Teleworking in Colombia.

2. APPROACHING A LEGAL AND CONTEXTUAL TELEWORK FRAMEWORK IN COLOMBIA

Telework in Colombia is still incipient in contrast to the exponential growth of information and communication technologies, i.e. the ICTs. According to information provided by the Ministry of Information and Communications, in December 2009 the country had an increase of 46% of Internet connections (fixed and mobile), as compared to 2008 figures [2]. In April 2010, Colombia had an estimated of 42.4 millions of active mobile lines, that is to say, cellular phone line for each Colombian [3]. These figures evidence the existence and growing access to technology and connectivity, and that innovative visions for more technology use seeking to generate employment opportunities are still missing.

But not everything is like that. There are already people and pioneer companies that are envisioning the use of this growing and installed technological infrastructure as different working opportunities for people.

We can therefore say that the rise and rapid development of telecommunications technology, along with the overcrowding access to computers, to the internet, to mobile telephony, plus the mentality of visionary people, are the ingredients that made work decentralization possible today, in certain activities beyond the traditional physical spaces. At present, a computer connected to the internet is potentially a virtual office. Technology alone is meaningless without the involvement of people, and that is why the teleworker has appeared. That is to say, someone who woks, cooperates, interacts, and produces results with the support of the technologies, breaking the barriers of distance and time.

The above aspects and realities made Marcela Rodriguez Mejia support the need to regulate and institutionalize telework in Colombian legislation, similarly to the European Union [4]. The experiences in Teleworking in the country were pilot tests and isolated attempts of individuals and institutions but without appropriate legal framework. In this framework, the regulations on Telework were needed not only in the case of current situations, but also in view of future possibilities.

The Rodriguez Mejia thesis about Telework regulations and institutionalization through legislation resulted in the approval of Law 1221 by the Colombian Congress in July 2008. This law was the first legal framework to establish the rules to promote and regulate on Telework in the country, seeking to consider the possibility of generating employment and self-employment through the use of information and communication technologies (ICTs). With this, work arrangements are added and updated in the country. At the same time, this Law also forces the Government to devise a public policy to encourage Telework, creating both possibilities and labor inclusion in the society in general and for distant populations, which would otherwise be away from traditional forms of employment.

Pursuant to Law 1221, the types of Telework are the following:

- *Autonomous,* Teleworkers that use their own home or a place chosen to develop their professional activity. It may be the case of a small office, a store. In this way employees who always work outside the company and come to the office only occasionally are also considered autonomous teleworkers.
- *Movable workers*, for example, those without an established workplace and whose primary tools to develop their professional activities ICTs in mobile devices.
- *Supplementary or additional teleworkers,* are the teleworkers that alternate their working time between home and the office.

40

In addition, the Colombian Law provides a number of good intentions that clearly set out present and future challenges of telework in Colombia. Among them we may mention: a) the creation of a national network to promote telework with the cooperation of public and private entities appointed by the Colombian Government, public telephone operators, cyber-cafes and professional associations. b) application of the Colombian legislation to the case of teleworkers, so that these may enjoy the same rights and benefits granted by the Labor Code and Social Security regulations. c) Labor and Union benefits. d) Governmental promotion of telework, addressing associations and public and private organizations.

Despite the previous regulatory framework and the access and increment of technology, many directors and employers from corporations are still wondering how to control those employees whom they cannot see or who are not in the physical space around. In other words, legislation and technological components are not enough, unless there is a change of mentality and reliability in the State, in the company, the employer and in potential teleworkers so as to provide an opportunity to Telework.

2.1 THE NORTHERN CATHOLIC UNIVERSITY FOUNDATION AND TELEWORK

The virtual nature of the Northern Catholic University Foundation has adopted telework as a mission and as a strategic purpose. This higher education institution located in Colombia has students and facilitators in 19 countries and in 72% of the departments or provinces of the country. Furthermore, even before Law 1221 Law 2008 was enacted, it had hired a significant number of teleworkers. The University´s virtual study system allowed directors to see that there was no need for the physical presence of the teacher (facilitator) and administrative personnel, and that the use of the ICTs could instead ensure employers and facilitators to control, monitor and follow up the activities of the students through the easy access to data, statistics and evidences.

In light of the above, 194 teachers provide their virtual personalized tutoring activities to their students on a regular basis. Therefore, from different places such as Quebec City (Canada) and some small districts such as Salgar (Antioquia, province of Colombia) teachers interact and lecture online courses, thanks to the possibilities furnished by the ICTs. In conclusion, a hundred percent of the teachers of the institution are real teleworkers who have learned to develop their responsibilities in a decentralized manner, anywhere in the world where a computer and the internet are available. There are also approximately 63 teleworkers among administrative staff and coordinators that work from home, from other offices or from anywhere in the country or abroad.

2.2 THE CONCEPT OF TELEWORK

Colombian Law No. 1221 Law defines telework as a form of labor organization, consisting in carrying out activities or services to third parties for a consideration, with the use and support of the ICTs; the contacts between the teleworker and the company do not require the presence of the teleworker in a specific work site.

For Gray, Hodson & Gordon, cited by Rodríguez Mejia [4], telework is "a flexible form of labor organization which consists in carrying out professional activities without the physical presence of workers in the company during a substantial part of the working schedule. It encompasses a wide range of activities that can be done either on a full time or on a part-time basis.

The Telework professional activity implies the permanent use of telecommunication media to allow communication between the teleworker and the company". Chaparro Ortiz is also cited because he considers this labor arrangement as a remote labor scheme with the use of telecommunication. The articulation of these concepts allows the author to define telework as a form of labor organization, involving the furnishing of services at any location other than the company's facilities, using the information technologies as the main tool.

Along the same line the North Catholic University´s definition of this type of work is based on its own experience with virtual education over a decade of institutional life. The concept of telework is presented in the following conceptual map (see Graphic 1) [5]:
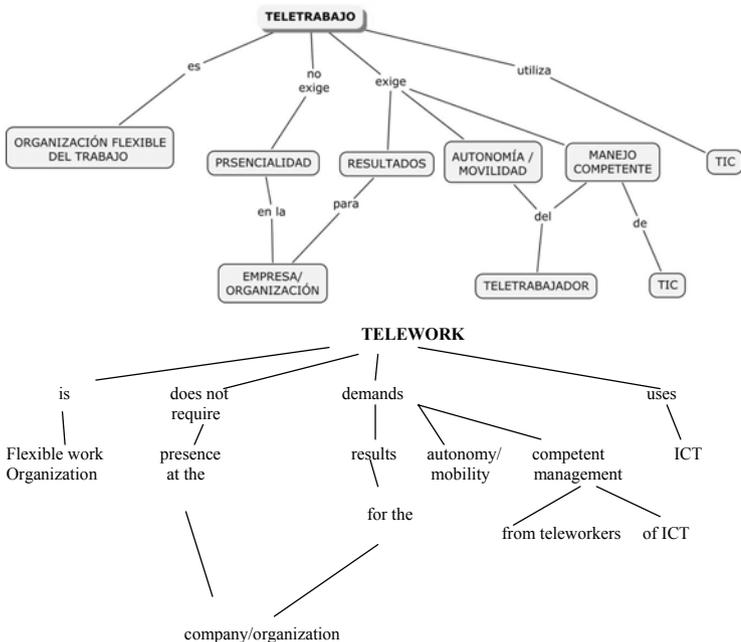
Graphic 1. The concept of Telework at the Northern Catholic University Foundation. (RoldánLópez, N., 2008)

From the different concepts and sources of the author common elements arise, which shape the concept of Telework. On the other hand, the ICTs as a means of interaction between the company and the teleworkers are considered tools that allow work decentralization. And furthermore, the concept of labor flexibility beyond strict compliance schedules in a workplace. Another element is that there is no need for the physical presence of the workers in a specific work site, which encompasses a trustful relationship through results between the teleworker and the company. It is inferred that telework necessarily requires teamwork (community) among people, among work purposes and the use of the ICTs, on which telework ultimately rest.

3 PRACTICES, CONTROL AND SUPPORT STRATEGIES IN TELEWORK MANAGEMENT

From the Northern Catholic University Foundation's experience on virtual education and telework, some guidelines below, together with some practices and combination of tools that obey to the approach of this paper.

3.1 INSTITUTIONAL GUIDELINES ADOPTED IN TELEWORK

The political decision made by the directives Dean of the Northern Catholic University on Telework, led to internal regulations, which in turn paved the way to the process of systematization of this experience, leading to the creation of:

a) a general statute on Telework;
b) an institutional protocol for virtual meetings (both synchronous and asynchronous) for teleworkers (see Graphic 2).

| General Statute on Telework | Institutional protocol for teleworkers virtual meetings |

Graph 2. Table of contents of the Institutional guidelines for teleworkers

This regulation necessarily involves a technological component installed in the residence or office of each teleworker, such as: a) Last-generation personal computers (hardware), b) different programs (software), c) access to broadband internet. This technology should be selected in agreement with the institution for people communication purposes and the exchanging of information, data, results and evidences.

3.2 TELEWORKERS GENERAL COMPETENCES

3.2.1 Teleworker with administrative responsibilities

The Teleworker at the Northern Catholic University Foundation demonstrates the following qualifications: a) Ability to work constantly unsupervised but with responsibility; b)Written, oral and digital communication skills; c) Problem solving skills; d) Collaborative and cooperative team-work skills; e) Ability to achieve the goals set out in the expected time; f) Establish effective communication mechanisms among members of staff and the company's customers; g) Master the communication virtual tools available (LMS technology platforms - blogs, wikis, web pages, Google Docs, LiveMeeting, email, Messenger, Skype, Google Talk); h) Commands, uses and recommends the Institutional tools and resources for his/her own teleworking roles; i) Ability to propose innovative alternatives that add value to teleworkers management; j) Ability to systematize the teleworking experience and make it a good practice; k) Ability to self-motivation-management, self-evaluation and self-improvement.

3.2.2 Teleworkers with teaching responsibilities

In addition to the competences mentioned in 3.2.1, teleworkers with teaching responsibilities demand: a) Availability for continuous training about innovative educational uses of ICTs; b) Furnishing of virtual tutoring in virtual courses for the students in each course and period; c) Constant availability to be monitored, controlled and to receive advice from the institution; d) Constant research work on methodology, teaching resources, themes or topics and evaluation strategies with the aim of improving the educational process he/she is part of; e) Access to follow-up, control and monitoring of his/her educational administration from the institution; d)Update of methodologies, training materials, content and assessment strategies that serve to add value to the virtual model in use.

1.3 TELEWORKERS' VIRTUAL OFFICE

The teleworker' working place is, in general, his/her own home, which is in fact an extension of the institution or a virtual office. Therefore the teleworker´s work spaces are: a physical and a virtual one with the use of technology (hardware and software) as properly demonstrated by Alejandro Franco Jaramillo´s experience [6] as a Teleworker from the Northern Catholic University Foundation. Jaramillo is a teacher and a member of the administrative staff of the institution, and has provided relevant services on the institutional guidelines described in 3.1 in this section.

Consequently, the virtual office requires some basic communication elements between the users of the Northern Catholic University services and the teleworker, as well as others which facilitate telework. There is therefore a physical scheme (environment, equipment, hardware, software), a virtual scheme (information mechanisms for users and team leaders), as shown in Graphic 3 below.
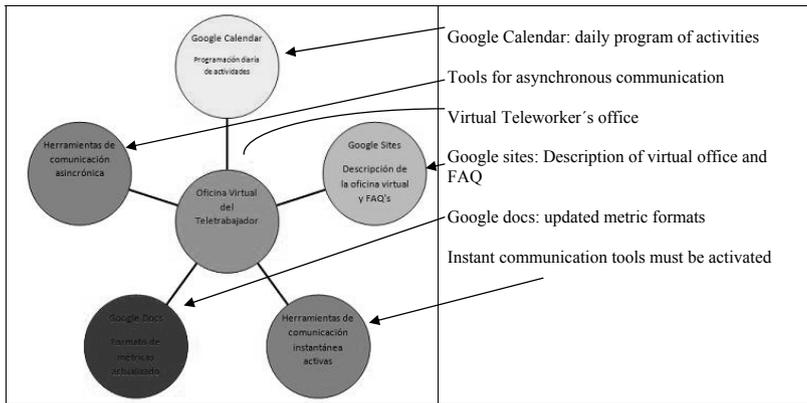
Graph 3. Teleworker Virtual Office Elements, according to Franco Jaramillo (2008)

In addition to the above information, the role of teleworkers demands a previously defined risk plan, which should describe the following aspects, among others: a) what to do in case of power blackout, b) what to do in case of internet failure c) what to do in case of problems with mobile phone communication; d) what to do if the teleworker must be away from his/working environment; e) what to do in case of computer viruses, f) what to do in case of medical incapacity or a job promotion of the teleworker.

In conclusion, the virtual office of the teleworker can be considered a real amalgam of space, technology, resources and work plan seeking the expected performance.

3.4 DYNAMIC SUPERVISION OF TELEWORKERS

The Northern Catholic University empowers people (virtual coordinators or leaders) as capable coaches with follow-up responsibilities, able to control and monitor teleworkers in a personalized way with the aim of helping them to achieve success in their job performance.

To help teleworkers achieve their goals, these coaches develop: a) a regular review of the roles and responsibilities of teleworker, b) they encourage teleworkers to define a work schedule, even if it varies from day to day. The schedule must describe their availability for virtual meetings, phone calls, and other meetings; c) ensure that teleworkers have the necessary elements to carry out their tasks: hardware, software and networks; d) use their persuasion and influence rather than their command e) use facts and information at the time they provide the guidelines; f) they respect the experience and expertise of team members; g) they are open to dialogue and teamwork; i) they evaluate performances on the basis of evidence and not by subjectivity; j) they propose and implement plans for improvement in agreement with teleworkers.

Moreover, for proper development of a monitoring process it is necessary to identify the following aspects regarding teleworkers: position, responsibilities, dependency and team to which they belong. It is also important to present a detailed plan of activities in measurable and reliable terms that will demand a periodic review to determine achievements. It could also be called "the accountability review".

45

These "accountability" reviews take place in the so-called "management reports" when the virtual leaders present their results to the higher authorities of the institution, referring to the needs of the students on the basis of action plans seeking the adoption of improvement measures.

In addition, in some cases the so-called metrics are proposed. These are accounting measures corresponding to the tasks performed within the duties of a given position. They are not the final result of a performance evaluation, but they can be the basis for their implementation, according to Franco Jaramillo [6]. The use of metrics is important when they are used to identify, analyze and challenge cyclical and critical cases that may disturb the normal functioning of Tele-work.

Based on the discussion up to this point, we can conclude that in general:

- The experience of teleworking in the Northern Catholic University Foundation shows, and submits to the consideration of the concerned community in general certain strategies and practices that lead to the credibility of this form of work.
- The migration to a culture of telecommuting is beyond rules or regulations; the initial and essential condition is a cultural change and open-mindedness in companies, employers and potential teleworkers. Not everyone is willing to use and work remotely due to the historical and sociological connotation dragged from industrial times where the employee had always a physical presence at the workplace.
- It is obvious that not all occupational fields are likely to be viewed from a teleworking perspective. But it is left to the people's imagination and innovation to find opportunities for those professions and labor areas which may alternate with Telework moments and scenarios.
- Technology needs to be an ally for Telework and not a noise or obstruction. Therefore, the ICTs involved have the role of bringing people together, as well as processes, information, exchange of data and evidences among a teleworkers' community sharing the same interests. And consequently, these instruments need to be transparent in order to facilitate the work and process achievement.
- Companies betting on Telework are required to clearly define their internal strategies and tools and to validate policies that outline the responsibilities and scopes of teleworkers. And also, follow-up, control and monitoring mechanisms regarding the expected performance.

REFERENCES

[1] Beard, L. *Teleworking and professional information*. (Spanish). El profesional de la información, Vol 10,No. 4 (April 2001), pp. 4-13.
[2] Ministry of Information Technologies and Communications. *Half-yearly report of the ICT sector (2S-2009)in July 2010*. Republic of Colombia (July, 2010), available at:
http://www.mintic.gov.co/mincom/documents/portal/documents/root/Informacionsectorial/FINALINFORMESECTORIAL2S-2009JUL810.pdf
[3] Enter 2.0. *Colombia has 42.4 million active mobile lines, around 236 000 more than in March*. Casa Editorial El Tiempo, (April 2010), available at:
http://www.eltiempo.com/enter/actualidad_a/ARTICULO-WEB-PLANTILLA_NOTA_INTERIOR-7821012.html
[4] Rodriguez Mejía, M. *World and Colombia's Telework*.(Spanish).Gaceta Laboral, (January 2007), 13 (1), pp.29-42.
[5] Roland Lopez, N. *The Northern Catholic University Foundation Telework experience*. Facilitator Virtual Training System, Virtual Development Center, Cedevi, (February, 2008)
[6] Franco Jaramillo, A. *Teleworking in the Northern Catholic University Foundation*. (Unpublished document), (August, 2008) pp. 3

TELECOMMUTING: THE CONSTRUCTION OF A NEW ORGANIZATIONAL IDENTITY IN THE CONTEXT OF STATE ORGANIZATIONS

Mag. Liliana Picado Alvarado

Industrial Psychologist. Recruitment and Selection Officer UNED, Costa Rica.
lipicado@uned.ac.cr

Lic. Carlos Brizuela Steve Avila

Human Resources Manager.
Human Resources Office Technical UNED, Costa Rica.
cbrizuela@uned.ac.cr

ABSTRACT

The implementation of the Pilot Plan First Telework in the UNED gave rise to a series of questions that would be answered as the project was in progress. Even so, more doubts and questions would arise even before telework became a permanent recruiting arrangement for the institution. We may cite among these: how to select people to participate in the pilot plan? What personal characteristics are required for successful telecommuting? How can we measure the performance of a teleworker, how can we ensure that workers do not lose the connection with your office mates? These and many other questions would certainly arise.

This research brings the experience of the UNED on the phenomenon of the construction of the teleworker identity. It has addressed the issue of the personal jurisdiction of teleworkers, and the construction of group identity through focus group sessions with the management, through the use of "action triggers", and also of humor, as the commission was named "Teleprovocaciones" (Tele-Provocations).

The relationship between manager and teleworker is an important part of the new identity-building process in the UNED telework program. The manner in which manager and teleworker relate to each other, that is to say, the liaison, channel of communication and monitoring and evaluation systems may vary, and therefore the "initial psychological contract" is crucial for the successful implementation of this work arrangement. In a second stage, supervision practices of the UNED vis-à-vis teleworkers were identified.

The findings have led to the construction of methodology that attempts to guide the work of the UNED´s managers when and if they have teleworkers under their command. Research studies have shown that this work arrangement comprises, for the whole organization, a change in the various forms of attachment.

Keywords: Identity - e-address - change-psychosocial factors - psychological profile

1. INTRODUCTION:

Telework as an arrangement for delivering services demands some reflection, rethinking and, why not, the opportunity that people have to reinvent themselves as individuals and as organizations. This is so because the construction of an identity is not simply the search for an answer to the question "Who am I? Who are we in the global society? Who are we called to be in a virtual society?

If the society of knowledge to which we belong has wagered that the most valuable resource possessed by organizations is precisely the talent they have, it is then necessary then to redefine telework as such. Before referring to productivity indicators, economy, and the savings that this arrangement will undoubtedly yield, we need to talk about people first.

The study started on the basis of several assumptions:

a) Telecommuting as a work arrangement for delivery of services involves a new way of *being* in the world.
b) This new way of being in the world involves a serious reflection for the organizations, especially state agencies, as their structures tend to be rigid and highly bureaucratic.
c) It also implies a change for those who have opted to move from the traditional work scheme to offering their services online. This has an impact on people and on their environment (psychosocial factors).
d) Telecommuting requires a series of qualifications that are not merely technical, but also personal ones, in order to address telework successfully. Teleworks involves not only knowledge, but also know-how, know to be, and know to transmit.
e) The forms of labor relationships when telework is involved also change, especially those related to the relationship with peers and with managers. In this regard, a new kind of subculture is needed.
f) Telecommuting requires new forms of e-management, and new forms of productivity (performance) parameters. And also new manners to assess human talent.

2. DEFINITION OF INDICATORS ON HUMAN TALENT IN THE FIRST UNED TELEWORK PILOT PLAN

A series of indicators related to "life quality" were defined in the framework of the UNED Telework Pilot Plan, with the aim of measuring the impact that the change in labor arrangement would have on teleworkers, and also to make a comparison between "before and after" implementation of the plan.
The aim was either to discard or to confirm the aforementioned hypothesis: telework conveys an improvement in life quality.
The proposed life quality indicators were:

2.1. Personal satisfaction with the experience:
   2.1.1. *Enabling environment*: assessment of the teleworker's family, support from partners, support from bosses/managers
   2.1.2. *Impact on work life*: Integration with work team, individual performance, level of coordination UNED-work site, frequency and quality of communication, improving interpersonal relationship with peers, improving work relation with managers, increased or decreased job responsibilities.
   2.1.3. *Integrating social life and work*: leisure-work balance, increased or decreased social contacts, increase or decrease of free time to resolve personal problems, managing interruptions, distraction and temptations of family environment, increase or decrease of domestic responsibilities.

2.2. Degree of coincidence between previous expectations and evaluation of experiences (were expectations confirmed?)

2.3. Degree of commitment with project.

3. DEFINITION OF PERSONAL PROFILE OF UNED TELEWORKER

The recruitment of teleworkers demands special attention to variables related to self-management of human talent, combined with those required for the workplace.

During the first phase of the UNED telework pilot plan, as there was still no teleworker profile available, some filters were applied in the selection of teleworkers. These filters were: availability of the teleworker to get involved in the project; approval by the immediate leadership and the furnishing of minimum material resources required to perform duties from home.

Within this context, a psychological assessment was conducted with two main purposes:

- Identifying personality factors that might prove inconvenient in the performance of the teleworkers duties or which might involve any risk to their psychological and emotional wellbeing.
- Establishing a "baseline" group of teleworkers, who would in turn permit, after conclusion of the first stage of the plan, establishing a comparison between the "input profile" and the results obtained in terms of achievement of goals, personal satisfaction and contribution to improving the life quality of UNED teleworkers.

3.1. Methodology:

In order to establish the criteria to be appraised through psychological tests, a detailed review of the documents on telework experiences in other latitudes was conducted. Coinciding variables were extracted from studies presenting a positive correlation with the successful performance and the increase of quality of life. Three great analytical dimensions were proposed: variables related to a proactive attitude; emotion-related variables and variables related to openness to change.

Psychological variables were also identified, and the following description on psychological variables associated to successful performance of teleworkers was also obtained:

- Proactive attitude: energy, dynamism, tenacity, thoroughness, perseverance, efficiency, independence, cognitive control, integrity, honesty.
- Emotional variable: Emotional stability, control of emotions, control impulse, and self-confidence.
- Acceptance to change: open-mindedness, acceptance to experience, anxiety.

3.2. Results:

In order to provide the results that emerged from psychometric assessments, a description of the group of employees who participated in the first phase of the Pilot Plan is provided.

3.2.1. Description of the population:

The group for the pilot plan consisted of 16 persons, 9 men and 7 women. Their age range varies from of 29 to 52 years.

As regards the area in which they work, the distribution is as follows: 38% correspond to the administrative sector, 43% to teaching/research staff and the remaining 19% to academic support staff.

According to the information contained in Figure 1, the pilot plan included employees from the administrative and academic areas (43% and 38% respectively).

3.2.2. Analysis of results:

PROACTIVE ATTITUDE	CHARACTERISTICS IN HIGHER LEVEL (SCORES OF 8 OR MORE)	CHARACTERISTICS IN LOWER LEVEL (BELOW AVERAGE).

ACADEMICIANS	VARIABLES RELATED TO EFFICIENCY, COGNITIVE CONTROL AND INTEGRITY	IN VARIABLES ASSOCIATED TO ENERGY AND TENACITY. AN INVERSE RELATIONSHIP BETWEEN THE FORMER AND THE AGE OF THE PERSONS TESTED WAS ALSO OBSERVED, THAT IS TO SAY, THE OLDER THE PERSON WAS, THE LOWER THE PRESENCE OF THE CHARACTERISTIC MEASURED.
TEACHING SUPPORT	TENACITY, METICULOUSNESS AND PERSEVERANCE.	ENERGY, DYNAMISM AND INDEPENDENCE.
ADMINISTRATIVE	HIGH SCORES ON MOST OF THE VARIABLES ASSOCIATED TO PRO-ACTIVITY, ESPECIALLY IN THE "COMPUTING" GROUP.	INDEPENDENCE.

AFFECTIVITY	CHARACTERISTICS ON HIGHER LEVEL (SCORES OF 8 OR MORE)	CHARACTERISTICS ON LOWER LEVEL (BELOW AVERAGE)
ACADEMICIANS	EMOTIONAL STABILITY. EMOTIONAL CONTROL.	IMPULSE CONTROL.
TEACHING SUPPORT	NOTICEABLE DIFFERENCES IN THE GROUP, ALTHOUGH ALL HAVE A HIGH DEGREE OF EMOTIONAL STABILITY, 50% SCORED HIGH ON OTHER VARIABLES, WHILE THE REMAINING 50% SCORED BELOW AVERAGE IN IMPULSE CONTROL AND EMOTIONS.	
ADMINISTRATIVE	75% OF PERSONS TESTED WITH HIGH SCORES ON THE VARIABLES CORRESPONDING TO THIS DIMENSION.	25% OF THE PERSONS ASSESSED REFLECT POOR IMPULSE CONTROL AND EMOTIONS.

ACCEPTANCE OF CHANGE	FEATURES AT A HIGHER LEVEL (SCORES OF 8 OR MORE)	FEATURES IN LOWER LEVEL (BELOW AVERAGE).
ACADEMICIANS	THE PERSONS ASSESSED HIGH DEGREE OF PERSONAL CHARACTERISTICS ASSOCIATED TO ACCEPTANCE OF CHANGE.	

TEACHING SUP-PORT	MOST OF THOSE ASSESSED SHOWED HIGH DEGREES IN THE CHARACTE-RISTICS CORRESPONDING TO THIS DIMENSION.	
ADMINISTRATIVE	GOOD LEVEL TO MANAGE ANXIETY IN UNFAMILIAR SITUATIONS.	COMPUTER USERS HAVE A RESERVED LEGAL (CLOSE TO AVERAGE) AS RE-GARDS THEIR OPENNESS TO NEW EX-PERIENCES.

From the results above we could argue that the people who participated in the pilot plan portray the ideal profile of the teleworker.

We could also consider (as a hypothesis) that the coincidence between the theoretical pro-file and that of the persons assessed refers to two situations:

- The voluntary nature of the involvement in the project, since recruitment for a project of this type is an evidence of acceptance of change, willingness to have new experiences, and the search for innovation.
- The area of specialization of teleworkers, as most of them correspond to areas focusing innova-tion, planning and the search for specific goals, such as Informatics, planning, project evaluation and administration. That is to say, we would have 3 factors: personal characteristics + career + work processes.

4. PSYCHOSOCIAL FACTORS ASSOCIATED TO TELEWORK SUCCESS

The area involving psychosocial factors is understood as the area of psychology that deals with the study of interpersonal relations between humans and their environment. It involves all aspects of daily life and its direct relationship on the psyche of the individual. On the basis of the above definition, some basic considerations on the psychosocial implications of telework follow:

• **Noise:** as the teleworker is located in a private space, noise is variable and will depend on where his/her house is located, the number of occupants, their time schedules, and habits of the family and of the neighborhood. Therefore, this is not a variable that the organization might control; instead, the teleworker will have control over it, and to some extent.

• **Interruptions:** The house is a meeting place, and therefore probably in addition to the teleworker other persons live in the house. The duties of the teleworker may then suffer some interruption here and there. Limits and new agreements should then be established with the family. The tele-worker must promote a "teleworking" culture in his/her home. The FUNDESCO raises the question about a "profile of residence or habitat," resulting in the ability to create a barrier, a separation, between work and home life.

• **Space:** In order to perform their duties, teleworkers will need to have a space with certain condi-tions, which may involve a redistribution of certain areas in the house; this could mean some type of loss for the other people living in the house, or new spatial boundaries.

• **Breaking habits:** A double rupture of habits takes place with telework: familiar and working habits and these changes may cause uncertainty in the teleworker and in the people in his/her surrounding environment.

• **Relationship with the managers**: In view of the lack of meetings between manager/s and teleworker/s there are other forms of relationship. The maintenance of a relationship appropriate in order to achieve goals will depend on both the teleworker and the person holding the e-direction/manager.

• **Social isolation:** The organization provides the individual with a source of labor and social relationships. When the worker is separated from the rest, may have feelings of isolation, which might in some cases affect the sense of being a member of the group.

4.1. Methodology used to measure the psychosocial aspects of the UNED teleworking group:

Two instruments were used in this phase: performance of an individual psychological interview and a visit to the family environment of the teleworker.

The interview had four objectives:
- Validation of test results.
- Analysis on the immediate environment of the teleworker for identification of variables that might have some incidence in his/her experience as teleworker.
- Provide a space for questions about his/her new reality as teleworker in order to foresee contingencies and explore the emotions that the experience could bring about.
- Visits would facilitate a space for consultation which could provide an opportunity for counseling on factors triggered by the implementation of the new work arrangement.
    The following aspects were dealt with, such as reasons for participating in the project, shape of the family group, description of a normal work day, pastimes, identification of possible personal characteristics that could facilitate and/or hamper telework, relationships with managers, colleagues and users, strategies to avoid distractions at home and view on the necessary balance between personal life and work life.

4.2. Results:

4.2.1. Evaluation of the "baseline" prior to the implementation of the pilot plan:
- *Motivation to participate in the project*: Savings in commuting time, space and tools necessary to carry out his/her duties at home, a solution to the office over-crowding problem, an experience that may be instrumental in the preparation for early retirement, improved concentration and an opportunity to self management.
- *Household structure*: There were three basic types of family structure during interviews: people living alone, people living with only one person (spouse, parent or son/daughter and a smaller group, of people that live with the partner and sons, most of them adults. In general the family was prepared for the change of routine due to telework and accepted the project.
- *Description of a typical day*: Family in general gathered for breakfast and dinner. Most of the day the teleworker is alone in his/her home.
- *Pass-times*: Films, theater, reading and sports. As sport is rarely practiced, telework is seen as an opportunity for practicing sports more frequently.
- *Personality and telework*: the interviewed believed to that the necessary characteristics for telework, i.e.: responsibility, autonomy, self-organization, order, and ability to plan, knowledge on TICs, and so on. On the other hand, the inability to establish working times and to separate

work from personal life were considered obstacles, although no major difficulty was seen in this.

- *Relationships*: all respondents declared to have good relationship with bosses and coworkers, and also with users.
- Among the main strategies mentioned to avoid lapses of concentration at home, teleworkers referred to: creating work discipline, setting limits with family members regarding the time and place of work, setting priorities and targets to be met on a daily basis, also with a buffering space in case of unforeseen events, so as to avoid delays in the accomplishment of goals, compensation time in case of lapses of concentration and presence of people whose priority is work over personal life.

4.2.2. Evaluation of results after implementation of pilot plan:

• Personal satisfaction with the experience:

Favorable environment: A typical day in the life of teleworkers is similar to that of a traditional worker. The differences are the following: teleworkers may get out of bed a little later, as they do not need to commute, they can have their meals more calmly and at the dining room, instead of the workstation. They may also have work after schedule hours, as sometimes during the day they will have to leave their home to do things outside or just to exercise.

Other positive aspects include having more time to exercise, being able to share meals with their families or partner, the sensation of being unwatched, better organization of functions and time, no need to travel by bus or to drive and savings in fuel.

Impact on working life: among the positive aspects of telework, we may cite: to be able to concentrate in the daily work, less lapses of concentration, more flexibility of time and less stress.

Most teleworkers feel they produce more and with better results, they do their job quicker, in addition to having a larger and comfortable place to work. For most teleworkers the success achieved is related to their open mindedness to accept challenges, and to the short time to adapt to the new work arrangement.

As regards their relationship with peers, some say that has not been major changes, as they continue to communicate every single day. Others report that as they communicate less, they really enjoy when they meet peers personally. Others, however, report that the change has been negative, as they would like to be at the UNED more frequently. The alternative has been to try to find some space outside office hours for meetings.

A generalized problem is that some colleagues believe that teleworkers simple do not work, and they make jokes about it. Also in this regard they are not asked things because they thing they will feel bothered. For others, the concept of telework is still not very clear.

As regards the relationship with supervisors, everyone agreed that it has continued the same or even better, they have good communication, either by email or by telephone. The instructions are clear and as the objectives and plans were devised when the program was launched.

Integration of social life and work life: the relationship with the family has improved in most cases, either with their partners and children. They are at home longer and earlier in the day. They can share meals and other moments together, the family has assumed the change successfully. In most cases the other members of the family are either working or studying, and therefore working hours suffer no interruptions.

Regarding the issue of lapses of concentration, teleworkers expressed, almost unanimously, that they are more concentrated in their work than at the office, as they are no visitors or phones ringing. Most of the teleworkers are alone at home, but when there are other members of the family they have to limit their time together. Time available to deal with family matters has increased.

• Degree of coincidence between previous expectations and evaluation of the experience (confirmation of expectations).

Participants report that the initial expectations have been exceeded in some cases in view of the time-efficiency and better performance, and also due to comfort, tranquility and lack of stress. The degree of coincidence between results expected and results achieved have resulted in a high degree of satisfaction with the project. Self motivation has had a relevant role in the process.

• Degree of commitment to project.

Finally, participants are willing to continue teleworking or to take again this work arrangement, as it seems to yield more benefits than limitations. However, they also wish to maintain a working schedule at the UNED so as to avoid losing contact with the institution, with colleagues and with the environment.

5. BUILDING THE IDENTITY OF THE UNED TELEWORKERS GROUP

Several meetings were held with the aim of building the identity of the first group of UNED teleworkers:

5.1. First meeting:

It was an opening session of the pilot plan. Teleworkers and leaders were trained in teleworking, and they recognized each other as "fellow travelers" in the first pilot plan, sharing concerns and expectations.

5.2. Second meeting:

The second meeting was seen as an opportunity for teleworkers to coexist, and a focus group was formed. It was called "Teleprovocaciones" (Tele-Provocations) so as to correspond with the playful vision of the session.

The session consisted in humor presentations related to telework and the participants in small groups shared their perceptions on the matter.

Key findings include the following:

5.2.1. Teleworking is not double- jobs:

• The teleworker has higher concentration. The use of the phone is not distracting.
• Work is just the same; it only takes place in a more relaxed environment, and time can be better managed.
• There is an increase and improvement in the quality of the relationship with family members. More time to share the company of the family, especially during lunch or dinner.
• The teleworker does not take on more roles or responsibilities for being at home.
• There are more facilities and amenities at the physical work space.
• Some increased their cooperation in the home.
• Neighbors and other people may say that the teleworker is not working.
• Teleworkers must have a sense of freedom to demonstrate the benefits of the program. If teleworkers have some spare time, they should not feel the obligation to go to the office in order to dispel any sense of guilt.

54

- More discipline is needed because you feel freer.
- There is a mixed feeling, as they consider necessary and important to report so as not to lose the credibility about their work.
- Elimination of stress, because life quality is increased.
- There is more self control vis-à-vis the leader. Demonstration of telework as a work by objectives.
- They feel a personal need to stay connected, including Saturdays.
- They have been able to make contacts and friendships, as they have access to programs that are forbidden at the office (such as Messenger and Skype), and therefore they can socialize with peers at the office and other friends.

5.2.3. Resistance to change
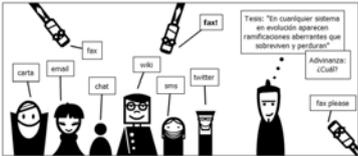
- The communication channel has changed from the telephone to the e-mail.
- We see the need of prior training in the use of several options in the area of information and communication technologies.
- Expand policies of access to free to use tools.

5.2.4. Up-to-the-minute

- At home they may be more comfortable.
- Less spending on personal appearance.

6. CONSTRUCTION OF THE RELATIONSHIP MANAGER - TELEWORKERS

In order to analyze the construction of the boss-teleworker relationship, surveys were applied to teleworkers and to the management. Several indicators were analyzed, and among them we can mention:

- **Communication**: It is a crucial factor in the good performance of teleworkers; from the viewpoint of "communication channels" media such as chats, video-calls and other technologies are used.
- **Objectives**: As an out-of-the-office work arrangement, it is important that both the manager and the worker establish the goals together so as to share responsibilities.
- **Monitoring**: Telework involves a change in the delivery of work, and therefore it impacts both the coordination and the monitoring methodology.
- **Frequency**: The frequency or periodicity of the meetings has to be defined, in order to review progress and the objectives previously defined. In case of delays the problem can be more easily detected and a solution may be brought to achieve the proposed goals.

6.1. Methodology used for measuring aspects of the UNED group telecommuters:

Surveys were conducted both with teleworkers and managers in the plan. Implementation was launched so as to achieve the objectives proposed. "Identify supervision practices at the UNED so as to manage teleworkers"

As part of the structure of the survey, issues such as communication, goals and objectives, supervision, e-management, periodicity or follow-up were addressed.

6.2. Results:

6.2.1. Assessment prior to survey:
- Communication: Technological development has led to a modification in the use of the usual means of communication such as telephone, telegrams, among others, therefore causing a shift in the manager - teleworker relationship.
- Goals and objectives: The elements for a proper strategic telework plan comprises goals and objectives, efficiency in the development of the tasks to be performed, identification of key activities and definition of objectives and the purpose of the work.
- Supervision: Technologically advanced, positive attitude towards teleworking, good communicator, flexible and not concerned about hierarchy, monitoring methods based on results, a good delegator, gives autonomy, provides feedback: these are some of the characteristics of the manager in charge of teleworkers.
- Frequency: As there is time flexibility the duties to be performed have to be agreed, activities shall be measured by results and not on the basis of a timetable.

6.2.2. Evaluation of results after survey

With regard to establishing goals and objectives it should be highlighted that they are not achieved jointly, and therefore goals and objectives have to be established in stages, as detailed below:

Stage I
- Determine the overall purpose of the work area or department, for which they must identify:
  - Targeting key area or department.
  - Duties.
  - The steps to develop such duties properly.

Stage II
- Identification of key activities and goals
- Review of daily activities, so as to determine their importance
- Establishing of priority activities.
- Define priority goals.
- Establish a limited number of objectives.
- Define objectives precisely so as to define expected results.
- Select the objectives in terms of impact on results.

Stage III
- Identify the purpose of the work as necessary;
- Identify need of employees focusing proper fulfillment of his/her duties.

Stage IV

• Prepare a list of possible goals and objectives to be achieved by worker. In this regard, the management may draft a list and also asks the worker to prepare his/her own draft, comprising goals and objectives deemed relevant, in which:

- There is a connection with the objectives of the area or department.
- The most important aspects of work should be considered.
- Goals or objectives should be achievable within a certain period of time.

Stage V

- Establishing goals and objectives. The rules below apply when defining goals and objectives proposed both by the worker and the management,
- Goals and objectives should be precisely stated.
- Goals and objectives should be clearly written, taking into consideration the use of active verbs, specification of time limit or deadline for achieving such goals or objective.

Stage VI

- Progress review of agreed goals and targets; in this regard, the manager and the teleworker should establish frequency of meetings to review progress, so as to discuss activities to be performed correctly and those with external or internal factors affecting achievement of goal(s), in order to find a proper solution.

The use of media such as telephone as the main communication means was detected. Therefore, workers were advised to use media such as e-mail or other IT solutions for efficient communication purposes. The use of free media or tools integrating voice, data and video was also encouraged.

On the other hand, there is need for further training on the use of several technologies, both for employees and management.

Finally, and regarding monitoring, management was encouraged to promote autonomy among employees, so that these might not feel heavy control on them. The joint definition of goals and objectives should be also encouraged, in order to share responsibility. The use of software tools must be emphasized so as to encourage a culture of information with which both the plant personnel and teleworkers might feel safer and supported in the tasks they perform.

In light of the above findings, not only the formal aspects of the assessment were mentioned, but also the perception of the people involved in this experience during the first stage of the UNED telework pilot plant. Both from the viewpoint of teleworkers and from the management the impact of the change of labor arrangement on teleworkers was noticeable, as well as the change for the state itself. This applies not only to their working reality but also to their personal environment. A factor of prime importance to ensure success of the program is the preparation prior to the launching of such a new experience which, as we said above, leads to the construction of a new identity, that is to say, a new way of being within the telecommuting world.

TELEWORK: AN INSIDER'S PERSPECTIVE

Carlos Alberto CASTRO GARCÍA

Instituto Costarricense de Electricidad (ICE) San Jose, Costa Rica,
ccastrog@ice.go.cr

ABSTRACT

This paper provides information about telework at the Costa Rican Institute of Electricity (ICE). This company is a regional icon in terms of electricity and telecommunications as well as in terms of telework in the public sector.

Telework is being implemented throughout the world; knowing that telework really works and brings benefits to its participants; one should feel invited to participate in it. This paper argues that telework can develop successfully and bring positive outcomes if it relies on three cornerstones: technology, the company and the person. It is also crucial to acknowledge the idiosyncrasy of the country, the region and the company involved to foresee the impact that it may have on people and the program. The culture and dynamics of the group work are also relevant; they have to be taken into account as key elements of the kind job that will be transformed by the group involved in telework.

Keywords: Teleworkable activities - Job contract addendum - Technical assistance - Costa Rican Electrical Institute (ICE) - Telework shift - Telework

1. INTRODUCTION

The following analysis presents the experience of the author as an active participant in telework practice performed at the Costa Rican Institute of Electricity (ICE) in Costa Rica. This plan began with 9 participants who decided to get involved in the first telework pilot plan launched on November 9th 2007. The author of this paper started working on the project from the very beginning and is currently an active member within the plan.

The author considers that the prospects around telework are important in view of the input that technology, the company and the individual may bring to the experience. It should always be borne in mind that these three elements are regarded as the cornerstones that should maintain a salutary and adequate equilibrium that will help the company achieve success. All of this is done keeping in mind some of ICE's objectives such as improving the services offered to customers, quality control, increase of productivity, profitability, and also providing its workers the best working conditions and career development.

In Costa Rica, the ICE has always been an agent of change. It has traditionally impacted the country's society with its practices and vision, and continues to do it by implementing telework, so that telework may become a relevant reference and institutional support in the area, for local government. The evaluations applied show that this form of work has been truly beneficial for the company and employees. The ICE has already reached a stage of maturity in issues related to telework but is still facing crucial challenges; among them, an evaluation of what can be understood as quality of life of teleworkers.

2. TECHNOLOGY, THE COMPANY AND THE INDIVIDUAL

From the author's viewpoint, as there is no such thing as an unstable three-legged stool, similarly when telework is based on the salutary and balanced contribution of these three elements or resources, will lead to a process of adequate stability and good performance; and if there is balance between the contributions of each one of these three elements, with a proper management scheme, successful results will be achieved, exceeding the goals initially proposed and ensuring a promising future for the players involved in telework.

Along these lines the following ideas present some considerations in relation to these three elements and their context at the ICE.

2.1. TECHNOLOGY

This represents the highway through which the work is developed and which must contain all computer-related and peripheral services that will ensure safe arrival to final destination.

The most important service is the Internet, taking into account the communication services that it offers (video-conferences, MSN, Facebook and other connectivity) -most of which are available to public use. Therefore, technology is a vital complement for those company-related requirements that are needed to fulfill – despite the distance – all the duties and responsibilities of each worker.

This highway will lead us and allow us to access administrative, financial and control services necessary to perform the duties assigned. There are many other resources that cannot fail to exist: facsimile services, telephones, scanners and copiers; these may become useful devices, almost indispensable, depending on the task and also on the demands of the office and of the duties to be performed.

In case of absence of adequate backup in this field, and notwithstanding that the staff and the support provided by the company are the right ones, it will be very difficult to succeed in view of the necessary interaction that must exist among these three resources. Interaction that must be balanced so as to permit synergy of resources that will seek to achieve the proposed aims and why not, to exceed the goals established both by the company and by the teleworker.

It is a well-known fact that no one is born with the knowledge and skills required to perform a certain duty. It is possible then to find teleworkable activities that have the necessary support of the organization; on the other hand, the teleworker himself may be willing to do things well, although he may lack some of the skills or expertise at least for the time being, a training program can be devised and performed in order to provide the trainee with the necessary technological knowledge and skills that will allow him/her to be a productive teleworker and to develop a productive telework management. This was not the case of the ICE´s project, but we wishes to posit it as a possible scenario that will never constitute a barrier to successful telework practice.

The dynamics of the country and of the company must set up telework centers, i.e. buildings that must be comply with the material conditions in terms of technological infrastructure and the necessary support required for the implementation of services from the teleworker.

2.1.1 ICE Regulations

In the case of the ICE, the following are some considerations included in the *Manual for Implementing Telework at the ICE* (Reglamento para implementar la modalidad de teletrabajo en el ICE) [1]; this manual is the institutional policy governing telework throughout the company.

In terms of information technology, the ICE may provide employees wishing to telework with internet access, phone line, equipment, materials and tools, affording the costs required to

achieve these goals. Should the teleworker provide these resources, he will be in charge of maintenance, update and all associated costs.

The ICE is responsible for providing technical support for the informational systems so that teleworker perform his/her job. However, the ICE is not obliged to provide support in the case of problems caused by misuse of computer resources.

2.2. THE COMPANY

A second key element is the company; the importance of the company goes beyond the expectations of success of telework. In fact, the company must intervene in the organization if success is to be achieved in a program as complex as this one. It is therefore important to bear in mind the kind of company the ICE is. In this regard, Table 1 provides a brief description of the company. The ICE provides power and telecommunications services for Costa Rica

Costa Rican Institute of Electricity (ICE)
Power sector
The ICE was founded in 1949 with the purpose of promoting the development of the country while offering power services to the country.
From a vertical perspective it develops the activities of production transmission and distribution of electricity in the area.
In addition, it performs activities in the area of power planning
Performs duties as market operation and as power system operation in the power interconnection with the Regional Power Market (MER in Spanish) in the Central-American region.
It currently offers an approximate power coverage of 99,2% in Costa Rica
Telecommunications Sector
The company started to strengthen and develop the country's telecommunications sector in 1963.
It is currently in charge of providing telecommunication services in Costa Rica.
It is now starting to offer new services such as cable TV, wireless internet and others, using the telecommunications platform, activities that depend on the possibilities of the platform and on the demand.
From a coverage perspective 66.05 % of the Costa Rican households have telephone service and 45.5% of the area with population has mobile phones.
Currently there is a trend to open the power and telecommunications market to the private sector

Table 1: General Information on the ICE

In analyzing the role of the company, the area of personal and human resources must develop, test and approve methods for diagnosis, evaluation, follow-up and control that allow them to measure the degree of development of the management services. Acceptance criteria are supposed to investigate and define most of the diagnosis and evaluation instruments in use, as well as a number of services which will contribute to the success of this work arrangement; they must have control elements in constant evolution with the support and assistance of specialized staff.

The company also must provide the aforementioned technological platform, as well as the support and proper maintenance services. In addition, the company must provide adequate space in the main office in order to provide the (visiting) teleworker with connection facilities in order to continue his work without constraints.

It is also important to devise and establish a well-structured and reasonable plan of incentives that will reward outstanding performances of teleworkers who achieve their aims and goals.

Positions in the management are key elements in the process, and for these the author is now proposing two different categories: top management and immediate management.

The top management must not only express their belief in the activities performed, but also commit themselves to the activities being carried out. Naturally not all the employees can become teleworkers and not all the managers can have all the members of staff teleworking. Management must them cooperate with the project in general terms and through actions and guidelines; they must rely and support the endeavors and the team work of teleworkers. Encouragement is important, as well as persuading the "hard-core members" of the organization to refrain from slowing down the desires of those who wish to engage in telework and the success of the program itself.

This higher level will be in charge of evaluating the benefits of telework, not only for the company and the finance of the enterprise, but also for society, for the individual, the teleworker and his/her family.

On the other hand, the immediate management is equally relevant – or even more – for the organization, as it will be in charge of promoting telework: if the immediate management has confidence in their people, providing support on a full basis, endorsing the requirements of the teleworker and following up the compliance of the goals and objectives proposed, evaluating and assisting the whole dynamics of the working group, it will be capable of achieving adequate balance in the distribution of duties to his/her team; it is convenient for him to follow up and evaluate not only the single telework and his/her work but also the team in general. He will also be in charge of proposing improvements and to provide the feedback to the higher levels in the organization. If the immediate management performs its duties as explained above, it will certainly achieve success, as a result of the endeavors of the organization and of the employees. That is to say, when the selection of the teleworker and the dynamics of the program have been properly conducted.

Certainly the role of the company is the most complex one since it involves any area of the organization or even outsiders needed to achieve success with telework and with the multidisciplinary team involved. For example, the company will evaluate the areas of the organization in order to establish which activities are teleworkable.

The company must also define and evaluate the necessary human and technical equipment in order to ascertain the willingness of workers vis-à-vis telework, their emotional and physical health as well as the family relationships. All this will allow the company a win-win effect when the employee becomes a teleworker.

2.2.1 Reference to ICE regulations.

On the basis of the Manual of Regulations to Implement Telework at the ICE (*Reglamento para implementar la modalidad de teletrabajo en el ICE*) [1] the following are relevant elements associated to this topic.
Teleworkable activities must abide by the following characteristics:
- They can be developed outside the office without affecting the normal performance of the process through the use of the informational and communication technologies.
- They are associated with clear objectives and specific goals that allow for good planning, follow up and control.
- Supervision is indirect and based on task completion.
- Communication is established mainly through telematic means.

The role of the management will guide the planning of activities and the establishment of goals through which the performance of the teleworker will be measured. It must supervise these activities through reports with specific deadlines and with specific indicators previously agreed on between the management and the teleworker.

Management *must provide access to a physical space* offering suitable conditions should teleworkers need to come to the office. They should have internet access and adequate conditions to allow teleworkers to continue with their duties, at least on a transitory basis.

Management must also maintain adequate condition as far as work environment is concerned, also in terms of compensations career opportunities and social integration of workers engaged in telework.

Some divisions involved in telework at the ICE are:

Call Center Service of the Division of Computer Science and Communications (Centro de Atención de Llamadas de la Dirección de Informática y Comunicaciones (CALLDIC)). In charge of providing the teleworker with technical support to solve technological infrastructure problems through remote media. In case that remote assistance is not possible, regional technical support is available.

The Client Division of the Telecommunication Area (División Clientes del Sector Telecomunicaciones). In charge of the installation and maintenance of telematic networks used in teleworkable activities.

The Human Resources and Management Departments and Strategic Business Units (Gestión de Recursos Humanos de las Divisiones, Direcciones y UEN). They must provide support to the process of inclusion and follow up of teleworkers in the program.

2.3 THE PERSON

The third key to secure the success of telework is the person. In this sense, those who wish to get involved in telework must satisfactorily fulfill a number of individual attitudes, qualities and capacities to achieve success in the program.

In the same manner in which the company may have some savings with telework, the members of staff should have some benefits. Teleworkers may see that the bills for electricity and water supply go up, but at the same time they must have some reduction in their transport or fuel expenses. Teleworkers may also improve their eating habits and family relationships and enjoy being closer to the family, although this does not mean that the person is going to neglect his duties. This is why controls and monitoring by the company may also ensure success. But the advantages granted to the worker and to his/her family cannot be denied: more time to enjoy their children or being closer to elderly or sick relatives. That is to say, this will help to improve not only the quality of life of the worker but also of his/her close relatives.

2.3.1 Reference to ICE Regulations [1]

This section refers to some ICE regulations concerning the teleworker.

Firstly, the worker must *sign an addendum to his/her labor contract, or a new labor contract*, according to his/her working condition.

The teleworker must be available during the working hours agreed in order to report to directors, partners and clients through email, telephone/video conference or any other means stipulated. Should the management require the presence of the teleworker, he/she will attend and carry out his/her duties personally. Failure to do so will be penalized according to the provisions of the Rules and Regulations of Staff on walkout/unjustified absence.

Electricity, water supply and food expenses related to the development of teleworkable activities shall be supported by teleworker. In the case of transfers to attend work meetings or visits as part of the activities, the norms applicable will prevail.

Teleworker must comply with the official working hours of the institution. However, the working schedule may be flexible, if and when agreed with the management and does not affect the normal performance of activities of colleagues or the working processes necessary to carry out those activities.

3. WHAT HAS THE ICE ACHIEVED IN TERMS OF TELEWORK?

We summarize below the results in terms of telework at the ICE, and we can affirm that the process is mature now.

3.1 TELEWORKING PILOT PLAN [2]

Some of ICE workers had been studying and analyzing the feasibility and convenience of implementing a teleworking pilot plan in the institution. The purpose was to verify productivity rates in order to implement this working practice in the organization.

The idea was proposed although without having any clear reference of this kind of working practice in the country, in addition to the lack of norms or legislation on the issue. Therefore, the degree of response was low. The ICE then encouraged a relevant change in terms of rules and regulations applicable to telework. Other key elements were those of connectivity and support infrastructure for telework. These aspects were studied and improved while the pilot plan was in progress.

Another important element, which is also included in the Law of Incorporation of the ICE, is the indication that the ICE must be a model institution for the Costa Rica, including also aspects related to entrepreneurial management. From this perspective, telework is conceived as a way of improving productivity, efficiency and efficacy at the institutional level. It also tries to improve the working conditions of employees in social aspects and at the same time seeks to improve the services offered to customers. Based on this, there were clear expectations and interests as to why it was important to support this project in order to achieve success.

The involvement and participation of an interdisciplinary team helped to define a final compilation of job characterizations and teleworkable activities and also the definition and evaluations of the physical and ergonomic conditions of the working facility. This team was also able to define the technological support for teleworkers to accomplish their duties.

The implementation of the project would permit a validation procedure and the inclusion of some adjustments in areas such as planning, organization and coordination. Therefore, activities would be performed in terms of quantitative objectives and creating an atmosphere favorable to a change in culture towards the improved use of information technologies. Chart 2 shows a summary of the references of the ICE telework pilot plan

Description	Reference
Starting date of pilot plan	November 15, 2007
Participants starting pilot plan	9
Participants who finished pilot plan	16 (63% men, 37% women)
Date of termination of pilot plan	May 15, 2008
Number of participants to date	184

Chart 2: General features of the ICE pilot plan

On November 15, 2007, at the time to set the plan in motion, there were initially 9 workers. When the pilot plan came to an end on May 15, 2008, there were 16 workers, (63% men and 37% women); in this group, 63% were professionals, 31% were administrative agents and 6% techni-

cians. Also in this group, 56% of members had less than 11 years working for the company. In addition, some employees from the Greater Metropolitan Area (GAM in Spanish), i.e. the most populated area in the country, also participated in the pilot plan. People from 4 of the 7 Costa Rican provinces attended the program.

The graph below shows how the plan was conducted at ICE from an organizational perspective. The coordinating team consisted of an interdisciplinary group of workers from different areas in the company. You may also visualize the process of the pilot plan through the various activities performed in each stage (2):
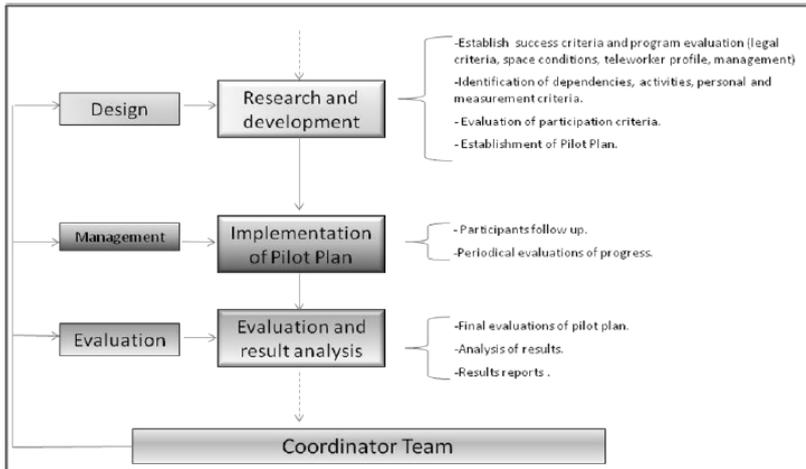
Chart 1: Organization for the implementation of the Pilot Plan [2]

Table 3 below presents the general criteria for the selection of participants to join the first ICE pilot plan [2]. This was part of the first stage referred to in the chart above and it represents the basis for the subsequent success of the plan.

PERSONAL CHARACTERISTICS	Flexibility, adaptability, reliable, self-disciplined, independent, dynamic
WORK-RELATED CHARACTERISTICS	Able to work without supervision and without pressure from chiefs; good communication abilities; social abilities; well organized; good time manager, problem-resolving abilities, experience with work, experience and knowledgeable about the organization.
PERSONAL CIRCUMSTANCES	Proper facilities at home, social life outside home, positive family environment, wish to telework, children? Senior caregiver?

Table 3: Criteria for Pilot Plan

4. TELEWORK: POSITIVE RESULTS AND CHALLENGES AT THE ICE
4.1 Positive results
The results from the telework pilot plan represent an important platform in the promotion of telework inside and outside the company. The following are some of these results:
4.1.1 There is evident professional growth for the organization and for the teleworkers.

65

4.1.2 All workers involved in the pilot plan have succeeded in their role and none of the have been required to resume their duties at the office.

4.1.3 The ICE has save approximately USD 400 per month per teleworker.

4.1.4 ICE has become a model in the promotion and support of telework for the government and for the whole country. This resulted in the publication of a governmental decree and the modification of the amendment of Articles No. 109,110 and 111 of the Labor Code of Costa Rica in favor of telework at the national level.

4.1.5 There are currently 23 Costa Rican public institutions developing pilot plans on teleworking.

4.1.6 A gradual growth in the number of people involved in teleworking in the ICE pilot plan is evident: 9 teleworkers when the plan was launched, 16 at the end of the plan and 184 in different areas of the company at present. This shows the positive outcome of an effective program dynamics.

4.1.7 Positive modification in the manner in which work is organized as a result of the benefits resulting from telework.

4.1.8 There is quantitative evidence that productivity has exceeded expectations (in 110% average).

4.1.9 Research on working environment shows that working relations between teleworker and the management have improved.

4.1.10 There is possibly a decrease in the number of leaves of absence – further research will be conducted on this issue in order to confirm this possibility.

4.2 Challenges

As part of the telework experience, the ICE is facing new challenges which can also be seen as incentives for telework success. The following are some of these challenges.

4.2.1 ICE as a virtual Company

Several organizations that provide services through the use of virtual platforms are well known in the business sector; both as regards in-house activities or duties outside of the company. This idea is one of the most relevant challenges for the ICE as it will allow the company to place emphasis on customer service that will in turn produce more achievements and benefits both for clients and for the company.

4.2.2 Management Culture and Leadership

There is no doubt about the relevant role of leadership in the success of telework. Therefore actions must be taken so that managers may be fully acquainted and knowledgeable about the relevance and the benefits of telework.

4.2.3 Examine the Quality of Life of the Teleworker

Frequently we hear about improving the quality of life of teleworkers. For this reason why the ICE is promoting a series of actions to evaluate the motivation, projection and emotional stability of teleworkers, as well as any other element necessary for a proper evaluation of the quality of life of these workers. In this way ICE can keep track of different elements and situations that guarantee the success of telework and how the benefits achieved can be transferred from the institution to the workers.

4.2.4 Telework-Center Network

The ICE is implementing the necessary actions to set up at least ten telework centers in strategic points of the country. These telework centers will provide the necessary infrastructure to implement this working practice beyond the limits of the ICE, even including other institutions of the public sector.

5. CONCLUSIONS

The following are the conclusions of the author, based on interviews and informal discussions with the ICE General Telework Manager, with institutional links of the Government, some managers,

colleagues and employees in general. These conclusions summarize the experience and expectations of ICE with regards to telework.

1. The ICE is one of the most important companies in Latin America. It has been decisive in certain moments of the history of the country, mostly because of its innovations. Teleworking has been one of them: the ICE is the first public company in Costa Rica to develop, implement and enforce a pilot plan on telework for the organization.

2. Thanks to telework, the ICE has experienced growth in terms of productivity, improving the quality of its products, making better use of facilities and saving institutional resources.

3. Teleworkers have experienced productivity gains; this in turn resulted in more time shared with their families. This is a promising result especially when teleworkers have kids requiring the guidance of parents, or in the case of the elderly, who may require special care and attention, even on a part-time basis.

4. Reduction in the number of leaves of absence, the feeling of having more control over stressful situations – traffic jams, lack of parking spaces, commuting-, are other benefits that cannot be forgotten. Flexibility of schedule is also important, especially if we consider that coworkers at the office may require support at any time.

5. The ICE has the challenge to perform or carry out a deeper analysis of the company and the country's idiosyncrasy: What are we like? How do we behave? What can we expect from our co-workers or bosses? What can we expect from our families and neighbors while working at home? And what impact is this going to have in our job performance? If the company does not examine these issues, it is important for people interested in teleworking to think a bit about them. These matters are going to be part of the teleworker daily life until a mature stage is reached in this process.

6. The ICE has now reached that mature stage: having started with 16 workers there are now 184 teleworkers, and this number is gradually growing. This is a salutary behavior that offers an optimistic view of the development and implementation of telework at home or in a telework center.

7. The ICE is supporting and helping the action of the government with regards to telework. This means that the project has been successful and that better things are yet to come; not only for the ICE but for the whole country.

It has been a pleasure to me to share this personal experience regarding the success of telework at the ICE in Costa Rica.

6. BIBLIOGRAPHY

[1] Instituto Costarricense de Electricidad, Subgerencia Administrativa Institucional, Unidad Gestora de Teletrabajo y Videoconexiones: Reglamento para implementar la modalidad de teletrabajo en el ICE. (*Costa Rican Power Institute – Institutional & Administrative Office of the Deputy Manager-Telework and Video-Connection Unit - Regulation for implementing telework at the ICE*) - Version: 2, (2010), pp. 2-12.

[2] Instituto Costarricense de Electricidad, Subgerencia Administrativa Institucional, Unidad Gestora de Teletrabajo y Videoconexiones: Resumen del Plan Piloto de Teletrabajo en el ICE, (*Costa Rican Power Institute – Institutional & Administrative Office of the Deputy Manager- Telework and Video-Connection Unit - Summary of ICE Telework Pilot Plan)* (June 2008), pp. 4-54.

PROPOSAL FOR IMPROVEMENT OF INTEGRAL E-WORK MANAGEMENT

Jorge LLUBERE AZOFEIFA

National Telework Coordinator, Costa Rica
jllubere@ice.go.cr

Since the approval of Decree No. 34704-MP on July 31, 2008, a series of actions have taken place for implementing e-Work in the Public and Private sectors. Although there are currently 11 institutions with pilot plans in the area of e-Work1, it is deemed necessary to make more endeavors to include more institutions and companies within this program.

Proposed actions for improvement include: development of a training and change management program in middle management of the public sector. Creation of an e-Work network where e-Work is possible. Creation of a Videoconference network for e-Work support. Design of a software solution "package" that makes accessing basic e-Work services easier: voice-video-data. And maintaining a permanent communication channel with society so as to encourage the enforcement of e-Work, the use of e-Centers and video-conferences.

It is recommended to support the Central E-Work Commission from three different standpoints: the UNED, the ICE E-Work and Video-Connections Unit and the Inter-Sectorial Digital Government commission, pursuant to the provisions of Decree No. 36176-MP of September 8, 2010k. This proposal does not include changes in the structure of the three organizations involved. What is sought is to have more executive capacity, larger coverage and shorter response times.

PROPOSAL FOR DRAFTING A PLAN OF COMPREHENSIVE ACTION IN TELEWORK AND VIDEO-CONFERENCES IN COSTA RICA

1- REASON FOR DEVELOPING AN INTEGRAL E-WORK PLAN

It is obvious that e-Work offers a series of benefits for employees, companies and for the society in general. This has been demonstrated with the programs developed by the Costa Rican Electricity Institute and other entities, as well by the references obtained from other countries confirming it.

Although since the approval of Decree Number 3407 of July, 2008 some important breakthroughs have been achieved, the truth is that the accumulated experience and current economic climate show the need to strongly promote a series of variables that allow obtaining a qualitative and quantitative increase nationwide.

The aforementioned is based in the need to articulate a series of efforts so this work style may contribute with significant productivity increases, social inclusion, profitability and quality of life.

Within the factors that are considered important, the following stand out:

2.1- Focus: In many cases, it is understood that e-Work is done from home, when in reality it can also be done as a movable task, such as inspectors, sales agents, technicians, field professionals and executives, among others. It can equally be performed at e-Centers

It is also important to point out that Videoconferences, whether they are performed in conference rooms, through computers or cellular phones, constitute a means for e-Work. For that reason, they are included in this proposal.

2.2- Scope: e-Work is directly related with improvements in:

2.2.1-Productivity: The reduction in response times and reduced administrative costs, transportation and use of physical space, among others, yields higher productivity.

2.2.2-Paperwork: Most of the procedures have been devised many years ago, under a work traditional work arrangement within an office.

2.2.3-Physical Facilities: The design of offices and cubicles meet previous criteria that little help to the mobility, agility and customer service.

2.2.7- Videoconferences: It is customary to move employees to meetings, when they could very well be performed using Videoconferences in a computer, conference room or using 3G cellular phones.

2.2.8- E-Centers: They offer a viable option that enables execution of activities and reduce costs, for workers as well as companies. Their implementation requires considering the "Intelligent Community Centers".

2.2.9- Technology: e-Workers, those at home as well as those that are mobile, require a set of solutions and access to make their jobs easier, such as Data card, Wi-Fi, Cloud Computing, virtualization and others.

2.2.10- Connectivity: Together with the increase of coverage and bandwidth capacity, the application of e-Work and videoconferences are benefited.

2.2.11- Social inclusion: In times of high unemployment rates, a solution is to facilitate access to remote works in rural areas, in the emergence of more women entrepreneurs, in positions for the disabled and other populations.

3. PROPOSED VISION OF THE E-WORK APPROACH

- Incorporated to the modernization strategy of organizations.
- Integrated to actions for increasing productivity.
- Located in urban and rural areas to promote social inclusion.
- Articulation with professional training and technical programs in university and para-university study centers.
 - Facilities appropriate for e-Work and for Videoconferences.

4-GENERAL GOAL

To implement e-Work and Videoconferences as a customary practice within institutions and companies in Costa Rica.

5- SPECIFIC GOALS

1- Consolidation of e-Work in the public and private sectors.
2- Creation of e-Centers for the promotion and stimulation of e-Work.
3- Use of videoconferences as an e-Work tool.
4- Development of training programs for the promotion of e-Work.
5- Establishment of a certification program for e-Working.
6- Creation of an entity that coordinates, plans and advices on all aspects related to e-Work.
7- To support the redesign of paperwork and processes that expedite virtual work.
8- To contribute to the development of a culture that favors the application of e-Working.
9- To propose changes required within legislation to promote e-Work.
10- To support enforcement of international agreements and contracts related to Society of Knowledge and Digital Government matters.

6- EXPECTED RESULTS

1- Having no less than 20 institutions implementing e-Work in 2010.
2- To have access to a videoconference network nationwide by 2010.
3- To have two operational e-Centers in 2011.
4- Two municipalities (district governments) implementing e-Work pilot plans in 2011
5- To have trained no less than 1,000 public employees by 2012 in the application of e-Work systems.
6- To have access to an e-Work Certification system by 2013.
7- Complete evaluation of all the public sector to identify positions that can be handled through e-Work by 2013.
8- Courses and virtual programs required by e-Workers and the general population available by 2013.
9- Consolidate Costa Rica as a reference point for the use of information technology, before 2014, in e-Work, Virtual Training and Videoconference matters.
10- To create four alliances with national and international organisms for the development of e-Work programs, videoconferences and virtual training.

7- ORGANIZATION

To achieve the aforementioned vision, goals and products, an organization comprising the following hubs is necessary:

7.1- Technology: it refers to the Access to data networks, availability of e-Centers and videoconferences, also to the use of integrated software for teleworking (cloud), availability of equipment:
        Directorate: ICE- Digital Government and alliances with other entities.

7.2- Training: Training needed for e-Working and the training for commissions, and disciplines to be included in curricula of studies. It also refers to the management of cultural change within the organizations.
        Directorate: State Distant University (*Universidad Estatal a Distancia*) and alliances with other entities.

7.3- Management: Includes amendments to Norms, de design and management of the Videoconferences and E-Center network, research, training and counseling on actions that allow the application of Virtual Work.
        Directorate: e-Work Committee and Video-connections (ICE), Technical Secretariat of the Digital Government and Alliances.

7.4- Strategy: In this hub the actions for planning, support, cooperation and program monitoring are included and coordinated.
        Directorate: Digital Government Intersectional Committee.

The organizational chart to articulate actions in each hub is shown in the diagram below:

71

CHART OF THE ORGANIZATION INVOLVED IN THE DEVELOPMENT OF AN INTEGRAL E-WORK APPROACH

INCIO SOLICITUD DE:
1
MINISTERIOS, INSTITUCIONES, MUNICIPALIDADES

GOBIERNO DE LA REPUBLICA

EJE TECNOLOGIA
ICE-RACSA ACCESO CONEXIÓN ASESORÍA SOFTWARE

COMISION:
ICE, MINISTERIO DE TRABAJO-DGSC MIDEPLAN- STGD

EJE ESTRATEGICO
PLANIFICA ASESORA FALICITA PRESUPUESTO

DISEÑO PLAN DE ACION

EJECUCION

EJE GESTION
UNIDAD TELETRABAJO DEL ICE Y EQUIPOS DE LAS INSTITUCIONES

EJE FORMATIVO
UNED EN ALIANZA CON ICAP-FUCAT OTROS ENTES

VIDEOCONFEREN CIAS. TELECENTROS

		Filing of request from Ministries Institutions Municipalities	Government of the Republic
TECHNOLOGY ICE-RACSA ACCESS CONNECTION COUNSELLING SOFWARE	Commission of the Ministry of Labor - DGSC- Mideplan – STGD	'	**STRATEGY** **Planning** **Advisory Services** **Facilitator** **Budget**
		DESIGN OF ACTION PLAN	
MANAGEMENT Unit of e-Work of the ICE and equipment from institutions		**IMPLEMENTATION**	**TRAINING** UNED and alliances with ICAP-FUCAT and other entities
		Videoconferences E-Centers	

8- ROLES OF THE UNITS INVOLVED

8.1. Inter-Branch Commission of the Digital Government
1 – Sponsors the general development of the project
2 – Gives advice and approves actions for consolidating e-Work, E-Centers and Videoconferences.
3 – Provides support to alliances/partnerships and cooperation from organizations

8.2. Technical Secretariat of the Digital Government - STDG
1 – Alliance/partnership building and agreements with national and international organizations with the aim of promoting the enforcement of e-Work and videoconferences.
2 – Integrates policies, guidelines and procedures between the Government of the Republic, the Public Sector, Private Companies and international organizations
3 – Together with the organizations involved coordinates the contribution of funds for the development of e-Working and Videoconferences.
4 – Operates and manages financial resources of the e-Work and Videoconferences Program

8.3. e-Work Commission
1 – In charge of planning, coordination and monitoring the implementation of activities related to e-Work application.
2 - Identification of needs of e-Work commissions in institutions and coordinates need satisfaction.
3 – Feedback to the Inter-Branch Commission of the Digital Government
4 – Updates statistic information on the situation of e-Work in the country.

8.4 – e-Work and Videoconference Unit of the ICE
1 – Cooperates in the implementation, together with teams from Institutions, of the actions established by the e-Work Commission.
2 – Prepares de documents and instruments necessary to ensure the normalization of the e-Work program in institutions and companies.
3 – Proposes thematic content for the educational programs of institutions and companies.
4 – Coordinates de localization, conditioning and operation of e-Centers and videoconference rooms in the national territory.
5 – Standardizes technical criteria for equipment which support the videoconference networks and access protocols.
6 – Certifies the design and operation of e-Centers and of videoconference software and rooms.

8.5. Costa-Rican Electricity Institute – ICE
1 – Performs actions to facilitate access of e-workers to connectivity, to e-Centers, to videoconference rooms and software incorporated to the program.
2 - Provides qualified staff in charge if designing, developing and maintaining the technical aspects that require the application of e-Work, of e-Centers and of the videoconference network.

8.6. State Distance University – UNED
1 – Provides support to the Technical Secretariat of the Digital Government in educational actions seeking e-Work implementation.
2 – Qualifies public servants in the application of the e-Work program.
3 – Organizes events designed specifically for cultural change in order to apply e-Work

4 – Coordinates the cooperation and partnerships to develop educational actions in terms of e-Work.

5 – Provides support to the certification program for e-Working.

6 – Facilitates access to the videoconference network in order to encourage e-Working activities

8.7 – Ministry of Labor and Social Security – MTSS

1 – Advices the Technical Secretariat of the Digital Government and the e-Working Coordination Team in labor aspects that emerge as a result of the application of e-Working.

2 - Proposes and coordinates the implementation of the amendments to the labor legislation of the country.

3 – Coordinates meetings with entrepreneurs and organization to promote the recruitment of e-workers.

4 – Assists to identify populations that can be incorporated to the workforce through e-Working.

8.8 – General Bureau of the Civil Service – DGSC

1 – Promotional actions to implement e-Working in the institution under its jurisdiction.

2 - Assists the Ministry of Labor in the analysis and recommendation of changes required by the normative framework of the institutions under its jurisdiction.

8.9. – Ministries and Public Institutions

1 – Applies the requirements presented by the Technical Secretariat of the digital Government to enforce the e-Working program.

2 – Appoints a representative at the e-Work Coordinating organ, in charge of coordinating actions for application of the program in the institution.

3 – Shares with the Coordination organ and with other institutions the information and experiences resulting from the program.

4 – Supports the costs of diagnosis, technical advisory bodies and qualification of staff trained within the e-Working and Videoconference Program.

5 – Provides feedback to the Central e-Working Commission on plans and actions in terms of advisory services and internships related to e-Working.

9- GENERAL STRATEGY

To promote e-Work and videoconferencing as work arrangements in the Public Sector providing access to those services to the public companies and to the community in general.

To launch e-Centers' operations, where public servant and the community can perform e-Work, have videoconferences and be trained in a virtual way in aspects that makes their access to the work force easier.

To design a software offer integrating all the applications required for the different e-Work positions.

To design the theme content to be incorporated in the higher education programs in order to promote e-Work.

To develop a cultural change management program.

To establish a competence certification center for developing e-Working.

For each stage indicated in the previous item, a process will be initiated with the formation of teams in each Ministry and Public Institution, after which diagnosis will be conducted, training of staff on focus, methodologies and tools included in the program.

These teams will in turn replicate into the company and in the communities the use and contents provided by e-Working and by videoconferences, resulting in the formation of a national e-workers and videoconference center "network".

10- SPECIFIC STRATEGIES

1- To define the work team in charge of managing the program.
2- To select a specific sector for a trial plan for the application of "e-Work software".
3- To select a location within the Great Metropolitan Area, to develop the e-Work trial plan, for the employees that cannot e-Work from home.
4- To make e-Work training programs available to the community.
5- To perform a positioning strategy for the program within target communities.
5.1. Government – Inter-Branch Commission of Digital Government.
5.2. Organize working sessions with authorities of the institutions selected.
5.3. Organize publications in mass media.

11- IMPLEMENTATION ACTIONS

11.1- Approvals
The Technical Secretariat of the Digital Government approves the proposal.
The ICE endorses the proposal of the plan
The UNED endorses the proposal of the plan.
The Ministry of Labor endorses the proposal of the plan.
The Inter-branch Commission of Digital Government approves the action plan.
The support of the Unit of e-Working and videoconferences of the ICE formalizes its support in the actions defined by the e-Working Commission.

11.2- Design of Action plan
The Central e-Work Committee together with the UNED and the ICE e-Working Unit create the action plan for the 2010-2014 term.

11.3- Design of National Videoconference Network
Design of the Network topology.
Design of the equipment technical characteristics.
To create policies, regulations and procedures.
To elaborate support tools for the regulations and procedures

11.4- Design of the National e-Center Network
Feasibility study and location of e-Centers.
Design of facilities.
Design of the equipment's technical characteristics.
Creation of policies, regulations and procedures.
Elaboration of support tools for regulations and procedures.

11.5- Application of communication campaigns
Design a campaign for each target community.
Launching of the communication campaign

11.6- e-Centers and Videoconference start up
Start operations in two e-Centers.

Use videoconference rooms in provincial capitals.
Apply videoconference PC software for the Ministers and Executive Presidents.

12. Resources for implementing the e-Working and videoconference program
The operation of this program seeks that e-Working and Videoconference become part of the organization of each institution and company. This means that the intention is not to create "parallel structures", but the conformation of "teams" which bring their contributions for promoting and ensuring in each sector that the program is working regularly.
However, all the aforementioned activities need human resources, as well as material and financial resources that allow the program to operate. In this regard, the resources needed may be segmented in two large fields.

12.1 – Coordination Resources
Comprises the resources for Program Planning, Coordination and Control developed by the Coordination Organ. We may highlight here:
1 – A General Coordinator of the e-Work and Videoconference Program
2 – Three experts in administration and management of the Videoconference network
3 – One expert in research and development of technological solutions.
4 – Two experts in the design and application of e-Working programs.
5 - One expert in Project Management.
6 – One expert in Financial Analysis and Cost Management.
7 – One expert in process survey/management indicators
8 – One vehicle, preferably dual-traction.
9 – Specific budget so that the team of the Coordination Organ can purchase: articles and office supplies, fuel, organization and participation in training events.
The above staff is already working at the e-Working and Videoconference Unit, and more members of staff are to be appointed for the time being.

12.2 Management Resources
The financial resources necessary to implement the program, such as
1 – Cost of training of all the public servants involved in the e-Working program.
2 – Cost of teaching material.
3 – Cost of rent (lease) of premises for teaching courses.
4 – Cost of advisory services, internships, as required
5 – Cost involved in the preparation of the e-center and videoconference rooms/facilities.
6 – Cost of workshops, seminars and congresses organized to carry out the teleworking and videoconference program

13 – Plan for Immediate Action
Simultaneously with the above, it will be necessary to carry out a series of immediate actions for the sustainability of the programs that are already being conducted in the organizations. Among these actions we may highlight:
13.1. – Design of plan of action, 1st half of 2011
13.2 – follow-up activity with institutions that are conduction e-Working pilot plans, 1st half of 2011
13.3 – Planning of the 2012 Telework Seminar, 1st half of 2011
13.4 – Open activity addressed to the private sector in order to promote e-Working. 2nd half of 2011
13.5 – Meetings with Ministers, Executive Presidents and Authorities in order to sensitize them on the benefits of e-Working – 2nd half of 2011

13.6 – General Meeting: Presentation of the annual report on results of the e-Working Commission.

14- CONCLUSIONS

The efforts performed have allowed important concrete advances in e-Work issues nationwide. Nonetheless, it is necessary to have an integral approach with a combination of factors related among them, to be able to reach a higher development level in this field.

Integration of actions concerning Mobile e-Work, videoconferences and e-Centers are the central part of this approach. Jointly, the need to offer software that integrates access to a series of services for e-Workers arises, as well as the need for more connectivity.

In order to reach the previously stated goal, it is necessary to standardize and integrate a series of actions that ensure more accelerated and uniform growth in all entities and companies. In this regard, the proposal is to include two stages to support the implementations of the works that must be executed in the fields mentioned.

The first of them is the State e-Learning University, which would be in charge of coordinating and implementing all the teaching actions and those referring to the cultural change required in this new approach. The reasons that justify this can be summarized as follows: the nature of the teaching approach, its presence nationwide, its technological structure and the interest in participating in e-Working and Videoconference activities.

The second one is the ICE e-Working and videoconference Management Unit, which will concentrate the implementation of the actions proposed by the Commission, as well as the development and management of e-Centers and the management of the Videoconference National Network. Its involvement is justified because: it is the stage that has elaborated most of the tools and regulations used in the public sector, has staff trained to give advice in this field and is at present developing a e-Center and videoconference Network nationwide.

All the other stages continue as before, although they provide more support to the actions included in this proposal.

15- RECOMMENDATIONS

15.1- Application of an e-Work approach can be developed as mobile, from e-Centers, through videoconferences and from the home.

15.2- Development of the National Videoconference Network and the National e-Work Network, as means to promote e-Work.

15.3 – Incorporate the UNED as specialized entity to develop training/teaching actions and those related to cultural change management required by e-Working.

15.4 – Promote from the Ministry of Labor and Social Security the appointment of staff to be included in the e-Working program.

15.5 – Joint actions with the Ministry of the Environment, Power and Telecommunications, focusing the strategy for the years 2010-2014 referring to e-Working promotion.

15.6- Application of a training program for school students, universities and general public for promoting e-Work consolidation.

15.7- Include the ICE e-Working and Videoconference Unit as supporting entity in the implementations of the actions recommended by the Central e-Working Commission.

15.8 - Obtain the support from the Digital Government Intersectional Committee to coordinate the integration of Intelligent Community Centers (CECIs), and training centers for their integration to the e-Center and Videoconference Network.

15.9 – obtain the support from the Inter-Branch Commission of the Digital Government in order to implement alliances and cooperation agreements that may help to promote e-Working, videoconferences and e-Centers.

ANNEX No.1

RELATED DECREES

Decree No. 34704 – July 31, 2008
Article 6 – Jurisdiction and obligations of the Coordination Team
The Coordination team will be in charge of issuing policies and general guidelines in the area of e-Working, in the public sector.
It will also coordinate the actions necessary with the corresponding agencies so that e-Working is applied nationwide, including the study of public institutions which, that according to budgetary, infrastructure, technological situations or to certain activities may participate in this style of work.
It will have capacity to convene the institutional commissions, as necessary.
It will also establish the regulations and norms for proceedings, guidelines and training programs as necessary that will support the implementation of E-working Programs.
Article 8 – Of Public Interest
 The activities displayed to promote e-working are considered of public interest. Cooperation actions may be scheduled with the private sector.

Article 9 – Public Policies
The coordination team may issue recommendations to the Executive Power on the implementation of policies related to the technological infrastructure seeking the efficient development of the duties of the e-worker.
Article 10 – Involvement in training events
The authorities of the institutions will facilitate the involvement of their employees in the training events organized by the Coordination team.

Decree No. 3616-MP
Article 1-
The Inter-Institutional Commission of the Digital Government – hereinafter the "Commission" is hereby established as an inter-institutional agency for the coordination and political definition in charge of devising, planning and preparing the public policies in the area of Digital Government.

The Inter-Institutional Commission will be composed of:

A) The President of the Republic, who will be the Chair of the Commission. [In case of absence of the President] he/she shall be replaced by the Second Vice-president of the Republic, who will chair the commission in that case.
B) The Minister of Vice-Minister of National Planning and Economic Policy.
C) The Ministry and Vice-Minister of Science and Technology.
D) The Minister or Vice-Minister of Economy, Industry and Commerce
E) The Executive President of the Costa Rican electricity Institute (ICE)

The Manager of the Technical Secretariat of the Digital Government and the representatives of other areas, as determined by the Commission, will be able to attend the meetings of the Commission, with voice but with no voting rights.

ANNEX No. 2

RELATED PROJECTS

The implementation of Virtual work is directly related to other initiatives which in parallel or complementarily must be developed in order to promote actions seeking modernization, which are based on the use of ICTs.

1 – Videoconference Network

Video-communication, understood as the possibility of visually communicating images, whether through cellular phones, laptops, desktops or videoconference rooms, constitute a very useful tool in e-Work systems and it has high impact in the reduction of commuting, road traffic and fuel use.

2- Digital City

The improvement of the community services which is promoted through the initiative called "Digital City" is broadened with the inclusion of Virtual Work, because this style of work favors citizen involvement within the labor sphere.

3 – Intelligent Community Centers - CECI

The CECI are distributed nationwide, they have their own physical and technological infrastructure that may be useful for mobile e-workers or for those persons that lack adequate conditions.

4 – e-Centers

E-Centers will be installed at the CECIs so that people may engage in e-Work activities. These e-Centers will be set up in the suburbs of the metropolitan area, capital cities in provinces and other areas when feasible.

5 – On-line paperwork

Virtual e-Work demands a series of administrative paperwork which can be processed electronically and therefore they are a driving force of the actions developed by the government in this field.

6 – Process redesign

e-Work has a multiplying effect in other fields of the organization; for example, in process optimization, since input/product flow analysis for those positions can lead to identifying new activities that are suitable for e-Work (or not) and improve those that aren't within the new organizational work context.

7 – Distance Training

People joining the e-Work system, either from home or in e-Centers, must have the opportunity to have access to Distance Training in the different areas for the development of their activities.

8 - Organizational culture

It has been shown that resistance to change happens when e-Work is introduced to organizations. Therefore, communications and sensitizing/awareness events should be organized among mid and high management, as well as in social groups.

9 – Use of Emerging Technologies

Management modernization leads to planning, coordinating and implementing the acquisition of information technology which permit the optimization of financial human and material resources. In this regard, the use of means such as: could computing, software allowing inter-operations, digital signature and low-cost licensing are part of the management of work in virtual environments.

WORK LOAD FACTORS IN VIRTUAL TEAMS

Harri VIROLAINEN

University of Turku, Turku School of economics, Pori unit. Pohjoisranta 11, 28101 Pori Finland
harri.virolainen@tse.fi

ABSTRACT

This paper examines work load factors in virtual teams. The virtual environment sets new job demands and challenges relating to work well being. This study's results are based on data collected from 10 different virtual teams in 5 different Finnish organizations. There were not many work load factors in virtual teams. The most common factors were work stress and hurry. Most of the work load factors were independent of the work context; the virtual working context as such does not explain work load factors although it set some challenges for work well being.

Keywords: work load, virtual team, work well being

1. INTRODUCTION

A team working virtually has many positive aspects concerning job satisfaction and work well being. In many cases working hours and habits are flexible. Workers usually have much influence over their own work, and they have the feeling of autonomy. These things have a positive effect on job satisfaction and well-being. (for example [5], [6]).

Despite many positive aspects of virtual working, it also includes elements which might decrease work wellbeing and job satisfaction [3]. One of the things mentioned most often in virtual team literature as decreasing work satisfaction is the physical separation from other team members and from important office activities. A virtual team is a challenging working environment because team members don't see each other face-to-face as often. Electronic communication sets challenges for communication, and remote workers might feel limitations in their daily communication with their colleagues. [4]. It is also hard to sense when colleagues need support and help. Because of those things remote workers might experience isolation and loneliness.

This article deals with work well being challenges for members of virtual work teams. The goal of this article is to describe workload factors in virtual teams. This article's results are based on empirical data collected from 10 different virtual teams. The next section tells more about the data gathering and methods. After that are the results and the final discussion section.

2. METHOD AND SAMPLE

The data was gathered from 10 different virtual teams in five different Finnish organizations. In this study, the criteria for a virtual team required that at least one of the team members had to work in another city. Additionally, the team members had common team goals and they had to co-operate with each other (see [8]).

The main data gathering method was a themed interview. In total, 45 virtual team members were interviewed. The second data gathering method was a quantitative questionnaire [15], to which 118 virtual team members replied. The response rate to this was 62 percent. The qualitative

method was the main method of analysis, and the quantitative analysis supported the qualitative analysis.

The teams were so called "long-term teams", which meant that they had already existed for a long period and the turnover of workers within them was quite low. The teams represented different business sectors. However, most of the teams (8) represented the IT-sector, one team was a sales team and one was a sales support team. All of the teams mainly used the phone and emails to communicate with each other. The teams' sizes varied between 5 and 28 people. The size of a team did not affect workers' well-being.

3. RESULTS

Factors that encumbered workers were rare. Most common workloads were work stress and hurry. Table 1

Table 1. Work load factors (1=very much, 5=very little) (n=117).

Workload factor	Mean	SD
Mobbing	4,75	0,54
Gratuitous surveillance	4,35	0,67
Lack of trust	4,15	0,76
Fear of expressing opinions	4,14	0,80
Fear of failure	4,10	0,70
Underestimating team members	4,04	0,77
Excessive bureaucracy	3,88	0,90
Personnel disagreements	3,80	0,83
Insolvable problems	3,79	0,90
Misunderstandings between team members	3,61	0,78
Work stress	2,50	0,92
Hurry	2,04	0,78

In the virtual team context, increasing conflict risk factors include misunderstandings between colleagues, limited possibility for spontaneous communication and feelings of insecurity (see [16]). Despite the risk factors, mobbing and conflicts between team members were rare in virtual teams. Almost all teams' members (95%) felt that there existed only quite a little mobbing. Also in other virtual teams' studies mobbing has mentioned to be rare (for example [16], [20], [21]). In general, if conflicts between team members existed it was felt to weaken the organizational climate and we-spirit substantially. Positive aspect of virtual teams is that personal conflicts seldom arise because atmosphere is not crowded (see also [12]). Although cliquey tele-offices are one risk factor. In one team, one tele-office was felt to be cliquey and workers in other tele-offices felt the situation troublesome (see also [18]). Communication, support and co-operation between team members were not felt to be functional. Conflict situations were related for lacking communication outside the tele-office and for weak co-operation between tele-offices. In this case virtual working was felt positive because remote workers didn't have to deal with each other daily, and that way neither conflict situation was sensed. On the one hand, virtual working did not take away the problem. Weak -functioning communication and co-operation harmed development of work and, instead of co-operating, workers had to settle for working on their own.

In some cases this encouraged disunity and even feelings of discrimination. It was felt hard to interfere in conflicts between team members especially when working virtually. Team experts tell about their negative experiences about cliquey tele-offices:

I don't call to Pori. It is personal chemistry thing. I'm not accepted in there. To these persons I can't call although they do same work as I. It has always been this way.

I can't say that I belong to group in any way because I'm not on the spot and they don't share information.

Other scholars have reported similar results. Solving conflicts in virtual teams is hard and more difficult than in face-to-face teams (for example [2], [9], [19]). According to Armstrong and Cole [1] study conflicts were expressed, recognized and efforts to solve them were made more quickly if team members worked in the same building. In virtual teams, problems were buried and left unsolved. Team members who worked at the same office often complained to one another but they did not complain to remote working supervisor before emotions rose to a high level. Step to inform remote supervisor was higher than when supervisor worked at the co-located office.

Team members felt that there existed some rules that directed function of the team. In general, personnel felt that there were not so many rules that they would have interfered with working. Workers liked that, because they appreciated freedom to work and a relaxed atmosphere without too much bureaucracy. There was not too much bureaucracy in any of the teams.

When organization size increased bureaucracy was also felt to increase, and in big organizations possibilities to influence weakened compared to small organizations. Even though there was not so much bureaucracy that it was felt that big organization affected teams' functioning with bureaucracy. Virtual team doesn't exist disconnected inside a big organization but big organizations' bureaucracy also affects the virtual team. This was experienced especially in different change situations and when filling paperwork.

Big workloads and hurry negatively affected work climate. Nakari [13] got similar results. In this study 73 % of the virtual team members experienced hurry in their work either pretty much or very much and this was felt to weaken the quality and quantity of communication. Personnel felt that they didn't have enough time for organizational citizenship behavior because they had so much work on their own task.

A feeling of security is one of the basic human needs [11]. An organizational climate which creates a feeling of security supports organization's function. When workers feel security, the climate supports continuing working ability, the courage to receive change, and creativity at work. [14] A feeling of insecurity was the biggest single factor that affected organizational climate. As a whole there existed only little feeling of insecurity in virtual teams, but when insecurity existed its effects were very negative.

Things that created insecurity in virtual teams were: lack of communication and information, exiguous face-to-face time with supervisor and fear of redundancy. A virtual working context demands activity and initiative, especially from remote workers. Remote workers can feel that they don't get as much information as workers at the head office. In this study some of the team members felt sometimes that their colleagues in the head office knew more about their organizations' affairs than they did. In many cases workers in the head office didn't know more than remote workers.

Remote workers just assumed that they miss information. This was because there were no clear communication rules and guidelines discussed. Open and well working communication creates a feeling of security for personnel. In this case the virtual working context itself is not the primary cause of feelings of insecurity. The same kind of feelings could also occur in co-located office if communication is not working properly. Feelings of insecurity decreased over time when remote workers noticed that they did not miss any important information.

Some of the remote workers felt insecurity because they seldom saw their supervisor. Some of the workers feared that the supervisor did not know how they have succeeded in their work.

They feared that if the supervisor did not know how they have succeeded in their work, they would not get promoted as fast as their colleges who work at the same location with supervisor.

Fear of losing one's job affected organization climate very negatively. If there is a threat of redundancy then it is very hard to develop organization climate. Workers' focus is on maintaining their work. In that kind of situation supervisors' task is to create sense of security by open communication. With the help of open communication, personnel will know what's going to happen and that decreases insecurity. Threat of redundancy can affect organization climate even many years after the threat has passed. Workers can remember these kinds of events even several years afterwards and feeling of insecurity can last years.

Work traveling was not considered as a factor that creates work load. Virtual teams' members felt that traveling was part of the work and the amount of traveling was felt to be suitable. Though some workers mentioned that if there would be a lot more traveling then it would likely create stress and work load because of less time with family. But in this case, workers did not feel that work traveling would have affected their family life tremendously.

Although some of the former studies (for example [1], [7], [10], [17]) mention isolation as a quite typical feature among virtual workers, this is not necessarily the case in every virtual team. In this study, feelings of isolation among team members were quite rare. In remote offices, virtual team members usually had people from other teams to discuss with, and that decreased the feeling of isolation. Kokko et. al. [9] got same kind of results in their research. According to their study, virtual team members had only minor feelings of isolation because they had lots of co-workers from other teams at the same office. Team members did not feel isolation at all if there were at least two team members at the same physical office. Exiguous shared meetings increased the feeling of isolation. Persons who traveled a lot experienced feelings of isolation and loneliness much more compared to other workers.

Workers at the same location alone do not explain exiguity of loneliness and isolation because neither virtual team members who worked at home alone experienced loneliness and isolation. They had chosen working at home of their own will and they were satisfied with the situation even though they had not face-to-face contact with their colleagues as often. Instead they were in daily contact with their colleagues and customers by email and by phone, so there was not communication isolation. Only in a few cases were there momentary feelings of isolation during vacation times when their colleagues were not reachable. Regular communication and reachability can be considered to be essential. Team members describe their feelings of isolation:

So, here in head office it is different, when you go downstairs you have people from whom you can ask. In there (remote office) you are alone.

At first I was alone, but when Tiina came I started to question: do you remember how this is done. At first the communication did not work before Tiina came. It helped a lot. It helped that you can always ask. Well it is possible to phone or send email but it's more difficult compared to situation where it is possible that other comes and shows, that put that over there.

One challenge remote workers faced was lack of professional communications connection. Several virtual team members missed substantial professional discussion with experts in teams where single team members worked in different remote offices. In remote offices, persons from other teams might have worked there also but it was not possible to discuss with them professionally about own team's topics and work tasks, because they did not have same kind of professional competences. It was easier to discuss about work related topics with team members compared to other team members who worked at the same office. Lack of professional discussion partners was felt to be development area concerning professional development and feeling of security.

When there were at least two persons at the same team in the same office it was easy to ask about work related topics and have a spontaneous discussion. When there is someone to talk to about professional topics it creates a feeling of security and decreases the feeling of loneliness. Some of the team members expressed feelings of loneliness because they lacked professional discussion partners. Lack of professional discussion partners, and the feeling of loneliness, decreased work motivation. Though, as a whole it did not have significant effect to work motivation because feelings of loneliness were present only occasionally.

4. DISCUSSION

The virtual working context has some challenges concerning work load and work well being. Social well-being at work is an especially challenging factor. Human beings seem to be "social animals" and, in many cases, miss social contact with one another. It seems that, despite the possibilities offered by electronic communication, people miss face-to-face contact. With help of electronic communication tools it would be possible to contact team members despite physical distance and not feeling isolated. But it still seems that people are not quite yet used to communicating with electronic tools as naturally as face-to-face. For example, in this study, workers did not feel isolation at all if there was someone from same team with them at the same office. So, physical proximity was still an important factor for workers' well-being.

Physical distances set some challenges that are not so easy to solve, even with electronic communication tools. Because of physical distances it is hard to sense team members' emotions and, because of that, offering help and empathy can be hard but definitely not impossible. Regular communication with team members and with supervisors helps to recognize problems and different states of mood before things get too bad.

Work satisfaction and work well-being are subjective feelings. Some people like more virtual working than others. Some are used to working by themselves and don't miss the physical presence of other team members as much as other people might. For people who miss social contact and the physical presence of other team members a lot, a virtual working context can be challenging and, for them, feelings of isolation and loneliness are likely.

In general there were quite a few work loading factors in virtual teams Many work load factors are independent of working context. In many cases, the virtual working context itself is not the cause of work load factors. For example hurry, stress and feelings of insecurity can exist also in co-located office. Though, in the virtual organization context these elements can appear easily if things are not working, or if there are not clear rules for communication and working. By discussing and agreeing communication rules, and with organization citizenship behavior, it is also possible to avoid feelings of insecurity amongst personnel and decrease stress and hurry.

REFERENCES

[1] Armstrong, D. & Cole, P. 1996. Managing distances and differences in geographically distributed work groups. In S., Jackson & M. Ruderman (Eds.) Diversity in work teams. Research paradigms for a changing workplace. Washington: American Psychological Association, 187-215.
[2] Armstrong, D. & Cole, P. 2002. Managing distances and differences in geographically distributed work groups. In P. Hinds & S. Kiesler (Eds.) Distributed work. Cambridge, MA: MIT Press, 167-186
[3] Bailey, D. & Kurland, N. 2002. A review of telework research: Findings, new directions, and lessons for the study of modern work. Journal of organizational behavior, 23, 383–400.
[4] Cooper, C. & Kurland, N. 2002. Telecommuting, professional isolation and employee development in public and private organizations. Journal of Organizational Behavior, 23: 511–532.
 [5] Dubrin, A. 1991. Comparison of the job satisfaction and productivity of telecommuters versus in-house employees: A research note on work in progress. Psychological Reports, 68, 1223–1234.

[6] Feldman, D. & Gainey, T. 1997. Patterns of telecommuting and their consequences: Framing the research agenda. Human Resource Management Review, 7, 369–388.
[7] Fisher, K. & Fisher, M. 2001. The distance manager. A hands-on guide to managing off-site employees and virtual teams. New York: McGraw-Hill.
[8] Gibson, C. & Gibbs, J. 2006. Unpacking the concept of virtuality: The effects of geographic dispersion, electronic dependence, dynamic structure, and national diversity on team innovation. Administrative Science Quarterly, 3, 451–495.
[9] Kokko, N. & Vartiainen, M. 2005. Hajautetun työskentelyn vaatimukset ja kuormitustekijät. Työsuojelurahasto tutkimusprojektin loppuraportti. Teknillinen korkeakoulu.
[10] Kurland, N. & Bailey, D. 1999. Telework: The advantages and challenges of working here, there, anywhere, and anytime. Organizational dynamics 2, 53-68.
[11] Maslow, A. 1943. A theory of human motivation, Psychological review, 4, 370-96.
[12] Mortensen, M. & Hinds, P. 2001. Conflict and shared identity in geographically distributed teams. The international journal of conflict management, 3, 212-238
[13] Nakari, M. 2003. Työilmapiiri, työntekijöiden hyvinvointi ja muutoksen mahdollisuus. Jyväskylä Studies in education, psychology and social research 226. Jyväskylä: Jyväskylän yliopisto.
[14] Pessi, Y. 1999. Työilmapiiri. Helsinki: Hakapaino oy.
[15] QPS Nordic – käsikirja. Pohjoismainen työn psyykkisten ja sosiaalisten tekijöiden yleiskysely 2001 Työterveyslaitos: Helsinki.
[16] Sivunen, A. 2007. Vuorovaikutus, viestintäteknologia ja identifioituminen hajautetuissa tiimeissä. Väitöskirja. Jyväskylä: Jyväskylän yliopiston julkaisuja.
[17] Van Aken, J., Hop, L. & Post, G. 1998. The Virtual Organization, a special mode of strong inter-organizational cooperation, in Hitt, M. Nixon, R. & J. Ricart (eds.) Managing Strategically in an Interconnected World: Chichester : John Wiley & Sons, 301-320.
[18] van Knippenberg, D. 2000. Work motivation and performance: a social identity perspective. Applied psychology: international review, 3, 357-371.
[19] Vartiainen, M. & Hakonen, M. 2002. The functionality of virtual teams. In proceedings of 6th international workshop on teamworking, 16-17 September 2002, Malmö, Sweden, Malmö university, 361-383.
[20] Vartiainen, M., Hakonen, M. & Kokko, N. 2004. Degree of virtuality, well-being and performance in dispersed teams and projects. Proceedings of 8th International Workshop on Teamworking (IWOT 8), Treir, Germany, September 16-17, 2004.
[21] Zaccaro, S. & Bader, P. 2003. E-leadership and the challenges of leading eteams: minimizing the bad and maximizing the good. Organizational dynamics, 4, 377-387.

University training in virtual work. An experience with virtual teams

Sebastián STEIZEL

Universidad de San Andrés, Victoria Provincia de Buenos Aires. Argentina
    ssteizel@udesa.edu.ar
Luisa MAYORAL
Universidad Nacional del Centro de la Provincia de Buenos Aires. Argentina
    mayoral@econ.unicen.edu.ar

Abstract

There is a frequent assumption that new generations, born and raised surrounded by new technologies of information and communication, have assimilated the necessary skills to work effectively through virtual means. However, experience shows that the education system still exposes new generations to a socialization process strongly based on face-to-face education and with scarce training in virtual environments. This article presents a collaborative experience with more than 70 students, teamed up in 15 virtual groups, and from different Argentine universities.

Some of the difficulties of distance learning are the problems of sharing contextual information, building trust, dealing with conflict, and upholding work interaction and communication that is focused on a group task. Educational devices that aim at developing skills for distance learning for university students are analyzed.

Keywords: distance learning, university education, virtual teams, competences

1. INTRODUCTION

Information and Communications Technologies (ICTs) have changed –and are still changing- the way we work, the way we study, the way we think and the way we interact with others. In this sense, ICTs are a powerful driving force of change [1].

These transformations have an impact in the labor market, not only in creating new ways of working and communication, but also in redeveloping skills. Some of these are related to individual abilities and knowledge, but many others require a change in the way we create social bonds and interact with others. In the first case, research indicates that success is not particularly connected with computer skills but with writing and analytical skills [2]. Regarding relationships; communication, conflict management and trust building skills have been identified as key competences [3]. Thus, developing these abilities involves cognitive aspects and also interpersonal skills unrelated to explicit learning. This is usually a tacit knowledge, not necessarily connected with formal education, more closely related to a "know how" than to knowledge in the strict sense. The way we learn these skills is basically through practice in the workplace [4].

There is an important ongoing debate about university training of employees for this new reality. On the one hand, some authors have suggested that new generations regard technology as a natural phenomenon, wholly incorporated to their everyday lives. These new generations, often called "Digital natives" [5] or the "net generation" [6] prefer active learning, and are able to execute multiple tasks and depend on technology for their interaction [5, 6, 7]. However, this viewpoint has been criticized because the use of technology and the skills it requires are not as uniformly spread as it is presumed, and because the extrapolation of these everyday skills to the work and learning fields is not easy [8].

On the other hand, distance learning entails a series of special features of collective interaction that need to be understood. In a face-to-face interaction, where they usually have common past experiences (shared experiences -they know each other-, and knowledge of the context where they work, -its culture, performance standards, etc.-), people get together, they re-cognize each other, they work and monitor their progress together; social control mechanisms emerge, etc. Many of these elements manifest themselves differently in the case of distance work, and not everybody shares the many assumptions about the task, the members and the organization that are brought about. Also, these teams work on the basis of "different" parameters in terms of time, interaction and personal skills which need to be learned.

This paper identifies and analyzes the special features of work in distance teams and draws a series of conclusions that can contribute to the development of these skills within the field of university education. It is the result of an exploratory research experience of a quasi-experimental nature in different universities. The article is organized as follows: in the first part the main concepts related to distance learning and the problems associated with this modality of education are introduced; the second part presents some ideas connected with experience-based learning that are key to understanding the purpose of the experience we present, and the third depicts the methodology used. Lastly, the main findings are analyzed and conclusions for skills development are drawn.

2. THEORETICAL FRAMEWORK

In the field of education there are multiple perspectives to approach the study of dispersed teams or, as they are also known, "virtual teams". The "distance learning" scholarly corpus would be the most predictable avenue to explore. But an approach that closely draws on the Administration Sciences contends that, given certain basic dimensions, face-to-face groups can be taken as a reference against which virtual groups can be analyzed. A new and currently growing approach in the field suggests that "virtual groups" can be problematized as an object of study that can be analyzed in itself and not by contrast to any other formation. Drawing from this last perspective, two main dimensions will be dealt with: virtual teams and virtual learning environments.

Virtual teams

Virtual work is a modality where people share a common objective and carry out tasks independently, in different places and times, using technology as their main means of communication [9]. To fully understand the challenges faced, the special features of this modality need to be identified.

Cramton [9] explores the implications that invisibility has in virtual work, and emphasizes the need to elaborate situational explanations. In the same vein, Sproull and Kiesler [10] argue that communication through ICTs greatly reduces social context cues that give messages a specific meaning. When many of the elements of the social context that are important to communication become uncertain, as happens with the use of electronic mail; social cues weaken and relationships are more difficult to establish. This difficulty depends, in part, on a failure to understand the situation (work, context, emotional, etc.) lived by the other party, thus degenerating in the attribution of wrong causes to a certain behavior [9].

Other authors focus on understanding conflict in virtual teams. According to Hinds and Bailey [11], technology sets a limit to the amount of information that can be transmitted, and also increases conflict and imposes the additional difficulty of the need for coordination of the behavior of team members. Hinds and Mortensen [12] found that there is more personal conflict in a virtual team, compared with a collocated team. Accordingly, and because face-to-face conflict management strategies cannot be extrapolated to distance situations [13], these conflicts become critical to vir-

tual teams and their resolution does not lie within known parameters. The authors suggest accounting for the moderating effects of shared identity and shared context, as well as generating mechanisms of spontaneous communication.

Distancing himself from the handling of specific conflicts, Walther [14] contends that although virtual teams may show high levels of performance, these teams need a longer time to develop and to reach a balanced form of interaction than face-to-face teams.

Finally, many authors also posit the need for face-to-face meetings in order to create the necessary empathy for an effective performance [15]. However, when the composition of virtual teams include subgroups with members that share a location, these members show a better relationship with their close colleagues than with the more distant ones, although same nationality groups show higher levels of conflict and lower levels of trust than totally dispersed groups [16].

In conclusion, compared with traditional work, virtual work entails different special features and it is essential to identify, understand and assimilate them to ensure more productive performances. The simple extrapolation of face-to-face work dynamics can generate misunderstandings, conflicts and problems that are very difficult to revert once put into motion.

Learning in virtual environments

Theories that deal with practice learning, such as Communities of Practice theories [17], can be useful to understand learning in virtual environments that is meaningful to students. At the risk of incurring in simplifications, these geographically dispersed groups, mediated by a computer, can be considered as "communities of practice" in the sense of Wenger [17] and can be analyzed using a model of learning based on participation. They are a community that shares a mutual commitment, a common practice and a shared repertoire of symbols. Developing as a community entails the need for the teams to find their own dynamics based on collective practice. A dynamic relation between the individual and the group action generates the knowledge about how to manage interaction in this environment, and this process builds collective learning about how to operate in virtual teams.

Thus, skills are learned in practice, based on collective action and a reflection process about this practice because the way behavior becomes meaningful is through practice. The characterization of groups as learning communities where learning develops through practice transforms the work experience in a learning experience. Accordingly, a considerable portion of the research about virtual teams is devoted to the study of distance-working university students [18, 19], not only as a means for the analysis of virtual teams, but also as a way of developing these students' competences [20].

3. METHODOLOGY

A laboratory experience was designed where students were asked to develop an academic task, with the aim of understanding the existing skills of university students to develop working routines in virtual contexts, and analyzing emerging problems. The task entailed the creation of inter-university work groups, and consisted in the joint resolution of a case study through the use of a technology platform.

Two such experiences have been carried out: the first one, from April to June 2009 with students from a private university located in the north of the city of Buenos Aires and a public university located in the center of the province of Buenos Aires, in Argentina. A total of 71 students participated in the experience, and they were distributed in 15 randomly assembled teams of 5 to 6 members, where each team had a balanced representation of both universities. The second and somewhat more ambitious experience consisted in a similar setup with students from a private university located in the north of the city of Buenos Aires, a private university in Bogotá, Colombia, and a private university from Montevideo, Uruguay. In this case 156 students were teamed up in 27

randomly assembled groups, where each team had a balanced representation of the three universities, and was carried out from August to November 2009.

The experiences were designed in detail, and professors agreed on the planned activities, from a pedagogical and a research-oriented point of view.

One of the first stages of the design process consisted in the coordination of work agendas with all universities involved, the topics that would be covered, and the choice and design of the e-learning platform. Six common core topics were chosen. The technology used was the "Moodle" platform, which allows for the assembly of the teams within the system and the use of such tools as discussion forums and chatrooms for synchronous and asynchronous communication. This platform was new to all universities involved, thus requiring from professors as well as students some time to become familiar with it.

Once these first aspects were agreed upon, a case study was chosen and a handbook was written, containing the work schedule, responsibilities and evaluation criteria. The case was "TBE in Quilmes Industrial S.A: Work based on self-managed teams"[6], not only because it presented a myriad of topics related to Organizational Behavior studies, but also because the case dwelt on self-managed teams and provided the opportunity to reflect on the experience in itself.

Also, several key deadlines were set. During the first week of access to the platform and assembly of the groups, each member was required to introduce him or herself to their fellow team members. The aim was the creation of empathy between members and sharing of information relevant to their collaborative activity. In week five every group had to present a succinct report on the topics they would analyze and the rationale for this choice. Here, the purpose was to have the team produce a document to expedite the work schedule and to have a landmark that entailed their need to interact with each other. Then, another five weeks later (and after receiving feedback on this report), each team was required to present a 20-page diagnosis and analysis of the case. Finally, to wrap up the activity, each university organized a face-to-face session to analyze, reflect on and extract conclusions from the experience, as a way of generating knowledge useful for the students and for future similar experiences.

The students were instructed to conduct all of their communications through the virtual platform, while no outside intervention would be allowed. This restriction was introduced to allow the faculty to monitor the development of work, each students' interventions and, eventually, to access the communications records and analyze group performance for research reasons.

This article draws on various sources of information. First, a statistical analysis of the participation of team members was carried out, followed by a qualitative analysis of the messages exchanged between the students. This allowed not only tracing the frequency of the messages but also their contents and an analysis of the lived experience. Later, the information gathered from the assessment meetings with the students was added, and a reflection on the work dynamics was developed.

This article will account for the findings from the first experience, as it is so far the one that has been analyzed in detail and that was shared by the authors.

4. FINDINGS

In what follows the main findings of the experience will be presented in an orderly and straight manner, although the experience was complex, diverse, systemic and chaotic. The following topics will be particularly analyzed:
-   Participation, non-participation and pseudo-participation
-   Shared commitment, diverse commitment, ritual commitment and non-commitment

---

[6] Kort, Graciela and Ariel Kievsky (2007). "TBE en Quilmes Industrial S.A: trabajo basado en equipos Autogestionados". Universidad of San Andrés, Buenos Aires, Argentina.

- Technology as a facilitator and an obstructer of group processes
- The task and the emerging conflicts
- Results from the task and from the group dynamics
- Emerging issues

Participation, non-participation and pseudo-participation

The analysis was made on the amount of active and passive participants, the amount of messages exchanged, their time distribution, and also more qualitative aspects such as complexity and diversity of ideas, and the emergence of different roles.

According to these variables, the 15 teams that participated in the experience can be grouped into 4 categories:

1. "The" team: It is named as such because it was the only team with these features. Here, active participation is complete. There are no "lurkers", those passive students who only observe but never interact and that when the deadline approaches, de-lurk by appearing and giving their support to what was done by the group. With this team, the amount of messages is above average: over a theoretical average of 37.6 messages for all teams, this team's messages total 94, thus being the group with the highest level of interaction when measured by amount of e-mails. Time distribution is balanced, so there are no high and zero interaction periods but it is sustained all along the experience. Content analysis shows that each message is minded and answered by the rest of the team; and no e-mail is answered with silence. Answers are given within a 2-day frame, and e-mails generate chains of answers. The participants' roles are clearly defined: beginners, followers, information providers, synthesizers, etc., but they are not fixed and change with the implementation phase. There are no dysfunctional roles.

2. The "quasi-teams": These are 5 and characterized by a high active participation. However, there are *lurkers* (one in most cases; two in one case). In almost all cases, the amount of messages is above the average amount (37.6), and in all cases, they are above the median (33). Time distribution is generally balanced, but it is affected by *lurking*: some participant does not reply, the group waits, then becomes restless, starts working, complains with the faculty and requires intervention, and finally ignores the *lurker* and resumes working, in the same way as "the" team. Rules need to be redefined in this truncated team: despite working with fewer members, they work as a team, with a high level of interaction and quality. Answers are given within a 2-day frame, and e-mails generate chains of answers. Different members begin, synthesize, analyze, etc., and role exchange is fluid. *Lurkers* access the platform and keep informed on the group's progress, but they do not interact with their fellow members. Closer to the deadline there is a *de-lurking* process: a greeting to the team, apologies, poor excuses and compliance with the work already done by the team. The team accepts the member, but waits expectantly. In general the new participant does not contribute too much, but the team nevertheless formally includes him or her in the presentation, although in a few exceptional cases this does not happen because the participant drops out from the course.

3. The "groups": These are 6. Their level of participation, measured in amount of e-mails, is below the theoretical average and, in the best of cases, it equals the median. Only one of the groups does not have *lurkers*; in the rest, these silent participants are ubiquitous. Also, in many groups there are students who drop out from the course. The *lurker* is accepted when he appears by the end of the semester, but only as a formality. This is enough for the new participant. It is a ritual action. However, the group is upset, and the messages reflect this and their feeling of the injustice of the situation. Again, and just like the "quasi-teams", the

active members become restless, then wait, complain, and finally accept, not without annoyance. Communication sometimes flows and sometimes is nonexistent. There is no cadence. There are timely and untimely answers. There are no chains of e-mails. Messages are sometimes lost in silence. Feedback is bad. When messages are not answered, they are sent again, to see whether the rest of the members are still there. There are periods of uncertainty. Silence is interpreted as lack of interest. Frustration is followed by hope when the answer and the apologies arrive, but, again, frustration overflows when silence returns. It is a very slow moving group dynamics that becomes evident through its difficulties. Roles are blurry, expectations are unclear and, in general, the whole experience is lived as a nuisance.

4. The "pseudo-groups": These are 3 and characterized by a very low level of participation. Messages are basically ritual. They do not progress. Participation is lower than the minimum required. In every one there are *lurkers* and dropouts. In some cases the passive participants outnumber the active ones. There are 3 groups but each show their own profile: one of them never acquires a mixed identity, because two of their *lurkers* come from the same university. For the active participants, who come from the same university, virtual work becomes absurd. In the second group one of the participants carries the whole burden, in view that the rest of the members are either dropouts or *lurkers*. Finally, the third group presents the lowest interaction levels, with two active participants, two *lurkers* and three e-mails.

Shared commitment, diverse commitment, ritual commitment and non-commitment

It is clear that the type of commitment in terms of intensity and quality changes from group to group and within the same group. Understanding shared commitment as a desired feature, for the cases we analyze here in general terms this element has proved scarce.

1) Shared commitment: Only one of the groups, which we identified as "the" team, shows this feature. Not only has the level of commitment been constant in time, but it has also been marked by enthusiasm, challenge, pleasure over duty and a rational cost-benefit calculation.

2) Diverse commitment: This is typical of the "quasi-teams", where there is an occasional shared commitment, but not always between all members. Also, internal reasons for commitment are varied: for some members it is enthusiasm; for others, duty; and, lastly, other members decide to take more or less part in the activities according to a personal equation.

3) Ritual commitment and non-commitment: There are also cases of ritual commitment, based on form and not on substance, cases of minimum commitment (i.e., the least necessary for the group to consider peripheral participation as "legitimate"), de-commitment and non-commitment. Although it is possible to connect these behaviors to "pseudo-groups" and the least developed groups, the reality is more complex and varied. Different styles and modalities coexist within the different types of groups.

Technology as a facilitator and an obstructer of group processes

A reflection from a socio-technical point of view, regarding how the platform's technology can facilitate or obstruct interaction, can also be advanced here. Despite the efforts made in the design stage to make technology a facilitator, several problems emerged from the experience. In this sense, two interesting issues arose: 1) at the beginning or at the moment of the introductions; and 2) during the process of working on the case.

1) Technology at the beginning: Students evinced technology-related problems from the outset, although the platform was created on "Moodle", a well-known tool, and several tests were carried out to guarantee its smooth running. This is particularly relevant for the students who come from one of the two universities. Almost half of them do not have home

access to the Internet, so that requires that they resort to an internet café or the university premises if they want to work in a timely manner with the group. Also, many of the students from this same university state that the enrollment process was not easy, that knowledge of English was a limitation, and that overall, the website is not friendly. When they were asked about their use of technology, the students would claim that although they are familiar with videogames, chatrooms and cell phones, such is not the case with these kinds of platforms, and that they not always know how to write an e-mail correctly. The instance of introduction results in a very succinct and formal knowledge of the other members of the group, where no contextual information is exchanged.

2) <u>Technology when working on the case</u>: Initially, all communication is asynchronous and established via e-mails. At the event of silences, waiting and nonattendance, students resort to synchronous communication through the chatrooms, with which they are familiar. This step generated a common feeling of frustration, because chatrooms were slow and in various occasions the connection spontaneously dropped. In view of this problem, many decided to use other chats (Hotmail service or SMS via cell phones), but this meant that their interaction remained outside the faculty's reach and was not recorded. In the end, the students were allowed the use of other chatrooms (but not SMSs) on condition that conversations would be recorded and sent to the faculty. This represented a "patch" solution; we cannot be certain about how many groups conformed to this requirement. The analysis of these conversations follows the same patterns as with the groups that used asynchronous means.

The task and the emerging conflicts

The analysis of the development of the assignment and team dynamics shows that a good portion of the time and energy are spent on coordination issues. In most of the cases interaction lacks substantive exchanges about the analysis of the case, and it is focused on agenda coordination, apologies and complaining for a want of participation. Whenever information about the analysis of the case is exchanged, contributions are either individual or by subgroups (members from the same university), and are accepted without further inputting or questioning.

In some cases, the degree of boldness and hostility of the messages is striking. Complaints, channeled in part through the faculty, derogatorily stereotype "the others". In other cases, these messages are posted in the discussion forums. The following extracts are an example:

"GUYS! I'm so angry! G. and J. have done nothing so far, and that's unacceptable. I'm angry that I have to work for others and that others are getting my mark. So, sorry, but we won't upload our assignment in moodle. I hope this is not a problem for the professors. I'm sorry, but this is university and, as in life, nobody will do things for you" (M., Group 14).

"C., you've got a nerve, really! Not only you never showed up, or helped or said anything, YOU DIDN'T WRITE THIS PAPER, I put your name on it only because I'm good, but you know you never did this. And on top of everything, you go and post a message on Monday and say you did a part of the culture section, that, anyways, YOU NEVER UPLOADED! I don't know what your problem is; lucky me, I have nothing else to do with you now" (A. T., Group 8).

"Can somebody say anything? It's a group assignment and nobody makes a single comment... I won't do it on my own! Get down to it, we need to complete it" (F., Group 15).

There are practically no interventions regarding the contents of the progress made. In general, a student with a higher level of commitment will take on the responsibility for completing the task and integrating the work already done, showing a higher or lower degree of opposition.

Results from the task and results from the group dynamics

Results from the work itself are striking: all groups (thanks to, independently of, in spite of) their internal dynamics, turn in the assignment in a timely manner. Assignments differ from one group to the other in terms of quality and value, but there is no correlation between assignment and group features. The star team did not obtain the highest mark. Many middle groups obtain similar marks. Other groups, as the pseudo-groups, are equally able to pass. In general terms, individual marks reflect an even more diverse outlook. By all means, if conclusions had been drawn on results only and the faculty hadn't had access to the group dynamics at the time it was taking place, we would have believed that groups were working perfectly well.

Regarding ex post satisfaction, results are not uniform, and this is a relevant element of analysis. In those groups characterized by a fluid communication, a sense of commitment and interaction, members congratulate each other and celebrate the results obtained. Their farewell e-mails show enthusiasm and rejoicing. Some members promise to keep in touch. For problematic groups there is no leave-taking: somebody turns in the assignment and here ends all communication.

We personally asked the students how they assessed the experience on the whole. Those who worked on their own felt angry and frustrated. Paradoxically or not, *lurkers* were enthusiastic: some of them end up acknowledging their calculating behavior, but only after being explained that the faculty "was watching". Would they recommend the experience to next year students? Students from the provincial university are positive, while the Buenos Aires City students would not recommend it. With exceptions and nuances, thus the experience ends.

Emerging issues

Although almost all findings are emerging, some of them were absolutely impossible to foresee. These are related to the differences shown by both universities, the variety of the students' situations faced with the experience, and internal complaints.

By all means, the faculty and the authors of this paper belong to different universities: on the one hand, a public, small university from the interior. On the other, a private university from the capital, not big in size but prestigious. In the first case, students access the public university because they belong to the same location or area of influence. In the second, students either invest money in their education or resort to a scholarship system, where their grade point average plays a crucial role.

Although these differences had been acknowledged beforehand, some of the consequences entailed were unexpected:

Technology availability, in terms of devices and skills, represented the first difficulty. We did not foresee that for some of the students from one of the universities, gaining access to a computer connected to the Internet would be so hard. Although this service was available on campus, the university was unprepared for this additional surge in demand; Internet cafés were an alternative, although inadequate for academic work; some classmate could help, but this was not a complete solution. Additionally, almost all students found it difficult to familiarize with the platform. The belief that all students would feel at ease with the platform proved wrong.

The second emerging difficulty was what social psychologists call the "otherness", where some groups of students questioned their "partners in the experience". They contended the requirement of working with "other" people who came from a university that had nothing to do with them. Thus, these students did not enroll in the platform and kept a watchful attitude. Not only were they not motivated by the reasoning about the possible enrichment of the learning experience, but more and more students began to agree with their view. A partial solution came with the Academic Council approval of the experience, but, for some, this validation entailed that biases were at work.

When the experience began, a large amount of students from one of the universities (with the exception of the previously noted cases) noticed that their classmates from the other university were taking the initiative. They told themselves that they would be the followers and go with the flow. For them, this was just an assignment. This was also the case for their distant classmates, although in many cases their scholarships were at stake. So, motivation was diverse. This explains much of the behavior adopted later and can be associated to a calculating position, with clear repercussions in styles of commitment. An idea slowly developed with most of the students (with the same exceptions), that could be worded as follows: "they…take everything in their path" and "those guys…are just opportunists".

5. ANALYSIS

An analysis of the experience is highly interesting and can represent an important contribution for distance work experiences.

Regarding different degrees of participation, this modality allows students to enter and exit the team work with no apparent social cost (or without conscience of it). A feeling of invisibility affords some members the opportunity to handle an intermittent participation and to offer all kinds of excuses that the rest of the team deem more or less plausible. This is possible due to the lack of contextual information of the other student's situation, and also, because there is a certain "feeling of solidarity" within each university's subgroups.

When there is no contextual information (or an acknowledgement of this information) the student that does not participate, even due to valid reasons, can "let the others" do the job without the need to explain his or her behavior. Accordingly, the rest of the team is left to imagine the reasons, which are connected with the social imaginary or stereotypes that grow stronger with the experience and end up generating conflict. For example, the fact that some students had Internet access problems could be taken by them as "evident" (which excused their need for explanation), whereas for the rest of the team the feeling of "see how they are?" gained more and more ground. Thus, this lack of information about each member's individual context generates misunderstandings that drag the team toward unproductive work dynamics.

Emerging dynamics are moderated by the formation of alliances within subgroups. These are created along the process of generation of a common idea about how the others are. The subgroups end up covering their own backs, which behavior also affects the performance of the group as a whole. Thus, the specific identity of the face-to-face subgroup prevails over the team's identity and commitment. This explains the dynamics of those teams where the behavioral pattern was a fragmented participation, repeated excuses and absence of group functioning.

Technology-mediated communication also creates a feeling of de-individualization. Interaction with unknown people or people with which we don't normally interact, together with the fact that there is no face-to-face contact can sometimes make people say things they would not normally say in a face-to-face situation. There were no strong complaints within each university against local classmates, whereas several complaints were raised against students from "the other university", which increased the conflict level. Several messages show how explicit and non-academic this conflict became. This behavior can be certainly explained by distance, invisibility and de-individualization.

In view of these situations it is interesting to analyze the relationship between results in terms of the assignment and in terms of team interaction. How can such a weak correlation be explained? Possible explanations may be related to the way regulations are interpreted by students from each university, to a certain "university culture", and to personal motivation. The first weeks of the experience revealed that coursework was not equally relevant for all students. The students from the Buenos Aires city university were strictly compelled to complete the assignment, and

much was at stake for them. By contrast, at the public university and due to student pressure, enforcement was apparently more lax because there were alternative instances of evaluation.

Assuming this inference is correct, then for these experiences to work adequately, culture, incentives and rules should be extremely well aligned; so the design and implementation cracks are minimized and the team does not suffer from counterproductive activities.

Finally, time and technology are two core aspects that help understand what happened. The novelty entailed more time for the students to grasp the work modality and the consequences of their behavior. Although three months is a good deal of time for an academic calendar, it seems not to be enough for the students to understand the dynamics and peculiarity of these new work arrangements. Despite being alleged "digital natives", an unknown platform may represent a difficulty for some students. The logic of discussion forums was not easy to understand, synchronous interaction via MSN was different to face-to-face interaction, and the production of collective knowledge through digital means was not equal to sending SMSs. Distance work certainly proved to be a novelty not naturally adopted.

6. CONCLUSIONS

What conclusions and knowledge can be drawn from this experience?

One of the first conclusions is that the use of technology does not come naturally. For the students (aged 19 to 24), adaptation to this work modality was particularly difficult, because it entailed a break from their familiar manner of collaboration. A platform with only discussion forums and chatrooms was not enough for group interaction, exchange of ideas and work. On the contrary, technology represented an obstacle: silences, "time out", more time for coordination, misunderstandings, stereotypes, etc. The question that we have to ask is: Are these events inherent to the use of technology? The analyses and the bibliography indicate that they are not. It is very probable that, if the necessary precautions had been taken, such as making particular situations explicit, devoting time to trust building and familiarizing with the platform, then results could have been quite different.

With regard to competences necessary for virtual work, communication and (especially) writing skills is the key for effective work. The ability to communicate through the use of technology entails knowing how to eliminate assumptions, share context experiences, create empathy, and ask before making inferences or stereotyping. Face-to-face work comes with experience sharing which ensures that those situations take place. Distance working means they have to be created.

Many aspects need to be underscored with respect to the design of a proper environment for those activities. When rules and incentives are not totally clear, participants may fall through the cracks created by the system. For example, the experience showed that if the students had other responsibilities, they would prioritize those where their presence was required. So it is evident that the importance of distance work needs to be assessed with regard to the student's face-to-face obligations.

Additionally, the cultural aspect is extremely important, and the adaptation of the participants' different cultural backgrounds needs to be taken into account. Cultural differences are liable to drag even more assumptions and stereotypes than are already abundant in this work modality.

Lastly, and about the experience in itself, the fact that the students underwent the difficulties entailed by distance working, gave the lessons learned a particular meaning for them. Sharing into the enthusiasm, but also the frustration, anger and indifference, and talking and reflecting on these feelings; transforms the experience into rich learning that goes beyond a mere course on digital alphabetization. As the students say, "for good or bad, we'll remember this experience". Which is exactly the aim of education in many aspects: developing experiences to motivate reflection, question preconceptions and generate knowledge.

In any case, there is one conclusion that is easily drawn from this analysis: these experiences need to be intensified through the use of criteria in the following three dimensions.

1) Improvement of interaction through the use of the most suitable technology, taking into consideration that technology with a potential for the new and the unknown also entails new and unknown problems.

2) Capacity-building for diversity and distance working. We not always have to work with people who think alike, who values the same things we do, or who shares our means and/or priorities. The generation of an active empathy is as urgent as is necessary.

3) Broadening of our understanding of virtual, self-managed groups of a diverse composition. We know too little about them and our knowledge is still partial and fragmentary. We need to gain more and better knowledge of these groups.

Insofar as more experiences of this kind are carried out, students will be better prepared for technology-mediated work modalities.

REFERENCES

[1]SEC Commission Staff Working Paper. (2003) 652. European Commission, 2003. Building the Knowledge society. Social and Human Capital Interactions

[2] Borghans, L. & Weel, Bas ter. (2004) Are computer skills the new basic skills? Labour Economics, vol. 11. Issue1. 2004

[3] Connaughton, S.; Shufler, M. (2007) "Multinational and Multicultural Distributed Teams: A Review and Future Agenda". Small Group Research, Vol 38 (3). 387-412.

[4] Steizel, S. (2005) "¿Qué capacidades, habilidades y cualificaciones son más requeridas por las empresas en la economía del conocimiento?" Learning Review, Junio – Julio 2005.

[5] Prensky, M. (2001). Digital natives, digital immigrants. On the Horizon, 9(5), 1–2.

[6] Tapscott, D. (1998). Growing up digital: the rise of the Net generation. New York: McGraw-Hill.

[7] Howe, N. & Strauss, W. (2000). Millennials rising: the next great generation. New York: Vintage

[8] Bennet, S.; Maton K; Kervin, L. (2008)"The 'digital natives' debate: A critical review of the evidence". British journal of education technology Vol 39 (5). 775-786.

[9] Cramton, C. "The mutual knowledge problem and its consequences for dispersed collaboration" Organization Science, vol. 12, nro. 3, may-jun, 2001, pp. 346-371

[10] Sproull, L. and Kiesler, S. (1986) "Reducing social context cues: electronic mail in organizational communication" Management Science Vol. 32 No. 11. 1492-1512

[11] Hinds, P. Bailey, D.(2003) "Out of Sight, Out of Sync: Understanding Conflict in Distributed Teams" Organizational Science. Vol 14, N°6 Nov-Dec. 615-632.

[12] Hinds, P, y Mortensen, M. (2005) "Understanding conflict in geographically distributed teams: the moderating effects of shared identity, shared context, and spontaneous communication" Organization Science, vol. 16, nro 2, may-jun 2005, pp 290-307

[13] Montoya-Weiss, M., Massey, A.P. and Song, M. (2001) "Getting it together: temporal coordination and conflict management in global virtual teams" Academy of Management Journal. Vol 44 No. 6. 1251-62.

[14] Walther, J. B. (1995). "Relational aspects of computer-mediated communication: Experimental observations over time." Organization Science, 6(2), 186-203.

[15] Maznevski, M. L., & Chudoba, K. M. (2000). Bridging space over time: Global virtual team dynamics and effectiveness. Organization Science, 11(5), 473-492 .

[16] Polzer, J.; Crisp, C..; Jarvenpaa, S.; Kim, J. (2006) "Extending the Faultline Model to Geographically Dispersed Teams: how Colocated Subgroups can Impair Group Functioning". Academy of Management Journal. Vol 49 (4). 679-692.

[17] Wenger, E. (2001)Comunidades de práctica: aprendizaje, significado e identidad, Paidos, 2001

[18] Martins, L.; Gilson, L ; Maynard, T. (2004) "Virtual Teams: What Do We Know and Where Do We Go From Here?" Journal of Management; Vol.30 (6); 805-835.

[19] Garrido, A. (2003) "El aprendizaje como identidad de participación en la práctica de una comunidad virtual" Trabajos de doctorado TD03-003 Programa de doctorado sobre la Sociedad de la Información y el Conocimiento http://www.uoc.edu/in3/dt/20088/20088.pdf

[20] Guitert, M.; Romeu, T; Perez-Mateo, M. (2007) "competencias TIC y trabajo en equipos virtuales". Revista de Universidad y sociedad del conocimiento, Vol 4. N°1.

New organizational formats in telework. from the factory to the virtual building.

Unemployment is an engine for innovation.
Sonia BOIAROV

sonia@boiarov.com.ar
www.boiarov.com.ar

ABSTRACT

Telework Towers (*Torres de Teletrabajo*) is a virtual building that brings together offers and those who are in need of teleservices. It represents a shift of paradigms that makes good use of IT to meet real current needs. Therefore, its purpose is to address the ignorance and prejudice about telework through a collective, independent effort, so that the purpose of generating new job opportunities can become a reality in the near future.

Keywords: Virtual Building – telework – teleservices - job opportunities - Torres de Teletrabajo (Telework Towers)

1. INTRODUCTION

If we refer to the evolution from the agrarian to the industrial society, we cannot help but remembering the huge migration of peasants into the villages, in search of better opportunities. What has been the driving force for the migration of these groups? The lack of jobs.

The land reform introduced in England in the eighteenth century gated the properties and began intensive crops, facilitated by the new agricultural technology. This development had an impact on employment and reduced it to a minimum. Since then, rural properties would no longer provide the opportunities people needed. Landless and jobless peasants had no choice but to move to the villages and cities.

The city promised a different future. The factories converted the real state wealth of the rural properties into movable property, represented by the merchandise produced. A new world of possibilities and hope had begun.

However, the number of workers who moved to the city was such that the over-supply of labor led to abuses by factory owners. These are evident in the form of meager wages, employment of minors and unacceptable working conditions. In the social, political and economic chaos, the industrial bourgeoisie grew, got capitalized and established its own rules.

Two social classes emerged:

1 - The industrial bourgeoisie, the owners of the machinery that due to its size could not be used at home, so they were placed in large factories, and
2 – The industrial proletariat, workers or labor force.

As time passed by it was necessary for workers to organize in order to implement the necessary counterbalances and thus dignify work. The class struggle was a necessary condition for a more egalitarian society.

The introduction of new technologies in industry, power sources and development of mass forms of production and consumption led to the fifty golden years of the Industrial Society. The economy expanded in our countries and generated wealth, including large parts of society, until a

new crisis, a contraction of the development model and the introduction of other new technologies gave rise to high unemployment rates that still survive.

Formal and decent employment which scholars insist on framing within the industrial society, does not offer opportunities to everyone. As we said, we live a new cycle of contraction, similarly to that of the passage from the agrarian to the industrial society.

At the risk of being unfair and just to summarize, but recognizing honorable exceptions, we are facing abuses whose characteristics are adapted to our time, and which are dangerously hovering above us. Meager wages that transform workers into be the new poor who cannot sustain themselves, long working hours that exceed the 8-normal-hour labor day, hopelessness in the growth or development within the company, and the high turnover of young people, form a discouraging picture. Unfortunately, the scene is even worse if we add the abuse and bad manners that we occasionally find in the workplace.

The "Y" Generation no longer has in mind a career in a company, and even less to sacrifice many hours of their lives in an office. They expect a better balance between work and their own personal life.

That is how a whimsical balance within formal work – with less employees – and informal work - composed of young people that choose their independence, for older people who fail to find jobs within the traditional market, and by free-lance professionals that look for other opportunities. It is a transcendental period of change that will not stop.

Each period of growth and development is followed by a contraction period that renews it and expands it, but with specific characteristics. They do need to rethink development scenarios and create new analysis categories.

Our challenge is not an easy one. We must understand the historical origins of economic cycles and their impact on social change, in order to recognize ourselves in the middle of the dichotomy between the industrial society that has started to shrink and the new information society that is just beginning to expand.

In the middle of chaos produced by these changes and the suffering due to the lack of jobs, we are forced to innovate. Any change brings unimagined opportunities, which were impossible in old days, but that we can have today, in our living-room, in our computer, on the Internet.

In light of these challenges, we intend to gather teleworkers that are at present scattered and unorganized, in Telework Towers (www.torresdeteletrabajo.com.ar).

Telework Towers is a virtual building. The building does not exist in real world. It is in itself a new reality: the virtual reality only possible due to the technological advances and the Internet.

Although for many it is difficult to work on the basis of abstraction, this reality does exist, and is based on knowledge. It becomes a new form of production and a new worker: the teleworker. The product of this productive force gathered in this building is also virtual, a new paradigm.

2. THE WEALTH OF NATIONS TODAY IS THE SUM OF ITS TANGIBLE AND INTANGIBLE PRODUCTS

Telework Towers is not a company, is not a job bank and is not a social network. It is a virtual office building that gathers in one place the intellectual capital and puts the knowledge of workers in productive action, making it available to any person who needs it and wishes to hire him/her.

It does not get involved in the recruitment process because its duty is to bring parties closer. Employers will know where to look for and teleworkers will have a place to offer their services. It is the non-physical, intangible place, for micro-entrepreneurs, businessmen and professionals who do not know how to start teleworking.

It is ultimately a new form of organization, not previously seen, which helps to create jobs. The recruitment process flows directly between the interested party and the teleworker. This

avoids intermediation, improves income distribution, and allows smoothing the ups and downs of an independent activity.

It is based on collaboration because all are committed to offer and sell the services of the building, not only individual services, thus creating a kind of synergy which was unimaginable at other times which can be seen merely to search in Google "telework towers" and see the number of occurrences of a project that was only launched last March.

3. BACKGROUND OF TELEWORK TOWERS (TT)

After completing the research: Exporters of Internet[7] Services, which was conducted by the Comisión TIC (IT Commission)[8] at the USUARIA[9] for the IDRC[10] in 2007, it became clear that the difficulty of teleworkers to find job opportunities were similar to those expressed by the contractors who revealed that recruitment of staff would improve in Latin America and the Caribbean if they knew the legal risks involved, and if recruitment procedures and payments were easier, as well as ensuring the correct selection of bidders who would provide some kind of support to the services to be hired.

In view of these results, the need to set up an organization of teleworkers to facilitate the reunion of suppliers and contractors was evident. Thus, in August 2009, the project of Telework Towers (TT) was presented on the 1st. International Telework Congress in Costa Rica. From that moment on it began to take shape. In order to do this, we called volunteers who wished to cooperate with the project.

4. THE START

We developed a search engine – the TT-core - based on the classification of services of the WTO-World Trade Organization. It was established that each floor would represent a different profession.

We selected simple 2D site, with photoshopped images that simulated the virtual reality of the building. The comments were received encouraged us to maintain this feature as an element that made a difference as regards traditional web sites.

We also modified the usual manner in which business sites offered product on sale, where a percentage is paid after the transaction is finished. In view of our possibilities, it was difficult to develop a system based on control operations so we opted to rent offices for a social value[11] so that all those who wished to telework could join, as the cost would not be an obstacle and they could feel a part of the project.

5. ELEMENTS THAT MAKE THE DIFFERENCE

Telework Towers is not merely a social network

Social networks on the internet are a relevant social phenomenon that is revolutionizing the way people communicate and interact with different interests.

---

[7] *Exportadores de Servicios en Internet, Chapter 2, page 92, http://www.etis-lac.org.ar/*

[8] *Comisión de Teleservicios en la Sociedad de la Información y el Conocimiento, www.tic.org.ar*

[9] *Asociación Argentina de Usuarios de la Informática y las Comunicaciones, www.usuaria.org.ar*

[10] *International Development Research Center, www.idrc.ca/lacro*

[11] *Monthly rent for offices paid by tenants is 25 pesos, i.e. USD 7.00.*

They are based on the theory of the six degrees which says that if each person is linked to five other persons, everybody in the world could be connected. It can be expressed in a graph as follows[12]:
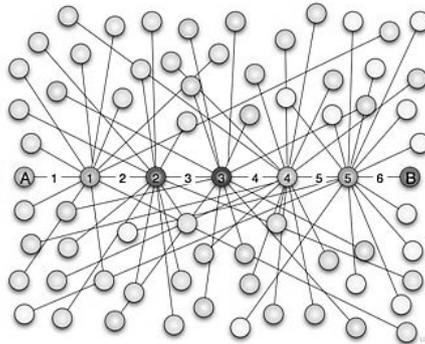
While the tenants of TT are connected through a closed group on Facebook, the social network is not an end in itself but instead it is seeking concrete results identifying a particular type of member: those who want to telework or expand their job opportunities in this manner.

TT members are linked in Facebook in order to start specific consultation on billing, clients, doubts on telework, meeting coordination, and so on. Everybody helps to disseminate and improve the web site.

The following topics will clarify some elements that make TT a different site.

TT requirements for tenants

Not everyone can rent an office in Telework Towers. Only those who accept the code of Ethics, the Netiquette norms and the commitment for professional excellence are accepted.
This group of principles seeks to provide more support to contracting parties.

TT constantly trains virtual tenants

Although experience as a teleworker is required, in some cases people without experience in telework but users of IT appear. In these cases, it is necessary to train them so that they may develop excellence in the provision of their services.

---

[12] *Juan José Lozano, Las redes sociales, Una nueva forma de comunicación,*
http://sociedadinformacion.fundacion.telefonica.com/DYC/SHI/Articulos_Servicios_-
_Redes_Sociales/seccion=1188&idioma=es_ES&id=2009101611280001&activo=4.do

We try to make everyone understand that the failure of just one is detrimental to all tenants, and precautions are taken so that the lack of knowledge does not lead to failure in the provision of services.

Virtual meetings are held on a monthly basis in order to discuss specific issues related to telework. Each topic becomes a training theme in which stakeholders get involved on a voluntary and free basis. Once training is completed a CEDTEL (Center for Education in Telework) certificate is given to participants, so that the training sessions become part of the tenants´ CV.

TT provides a floor and an office, i.e. a virtual domicile

When teleworkers do not have an office and their home is their working space, they avoid giving their private domicile to strangers. This is one of the weaknesses for teleworkers that decide to telework.

By renting a virtual office in TT, the system assigns an apartment and an office which can be disclosed when necessary (website, business cards, e-mail signatures, and so on)

Virtual addresses[13] are now a new legal space according to current usage. Unlike the traditional domicile that is the home of the teleworker, in which rights and obligations can be assumed and the compliance of obligations can be required, the virtual domicile is also the permanent domicile of the legal or natural person on the Web. The permanent use, not only of a web site, but also of an individual electronic post office box or other technological application are considered the virtual domicile of teleworkers in present days.

Some precedents on virtual addresses are found in Law 527 of 1999 in Colombia and the Law on Electronic Signatures in Global and National Commerce of the United States of America, of the year 2000.

Both laws require "that consumers accept contracts and invoices electronically signed and the bills signed in this negotiated on the internet, but for this, companies have to check that their clients have a valid electronic domicile as well as other technical means[14] to receiving information."

TT replaces the personal website

---

[13] *[Reference for Argentina]"The Civil Code addresses the question of domicile in articles 89 to 102, which are part of title VI (On the domicile) of the First Section (Persons in General)of book One (Persons).*
Pursuant to the provisions contained in Article 89 of the CC, the real domicile is the main place or site of residence and business.
It may happen, though, that the home is in one address, and business in another, and in this case Article 94 establishes that the place "where the family is established" prevails.
Curiously enough, this norm is compatible with the reality posed by the use of IT and the mass access to the internet, in such a way that they permit the individual to take care of personal, labor and commercial issues from the domicile of the individual, and therefore the compulsory attendance to a unique physical site, which characterizes business practices in the industrial society, ceases to exist.
As a new entity we have the conceptual separation of the domicile and of the physical residence.
Article 90 of the Civil code admits the existence of the virtual domicile as having legal nature, in view of the domestic norms, and that is why electronic notifications take place, which for the time being is voluntary but in fact possible.
http://www.tecderecho.com.ar/index.php?option=com_content&view=article&id=14:el-domicilio-virtual-una-practica-introducida-por-los-usos-y-costumbres-con-consecuencias-juridicas-innegables&catid=32:doctrina-de-internet&Itemid=14
[14] *Alfa Redi, Revista de Derecho Informático, Nro. 034, Los documentos electrónicos y sus efectos legales en Colombia, May 2001, http://www.alfa-redi.org/rdi-articulo.shtml?x=678*

For those who do not want to maintain a web site that requires investment and constant updates, TT offers a manner to be on the network in order to optimize the investment of each professional.

Teleworkers having a web site can indicate it in their virtual offices so that visitors can visit them, thus generating more traffic.

It also improves the position of certain search engines like Google, because it is easier to post a single website making the synergy among all than having millions of teleworker websites[15].

PROGRESS

In May 2010 began a promotion activity started that included links to websites, clicks on Facebook, participation in events in several countries and newspaper articles.

These efforts resulted in adding 208 teleworkers to the virtual offices located in 15 countries shown in the image taken from the browser:
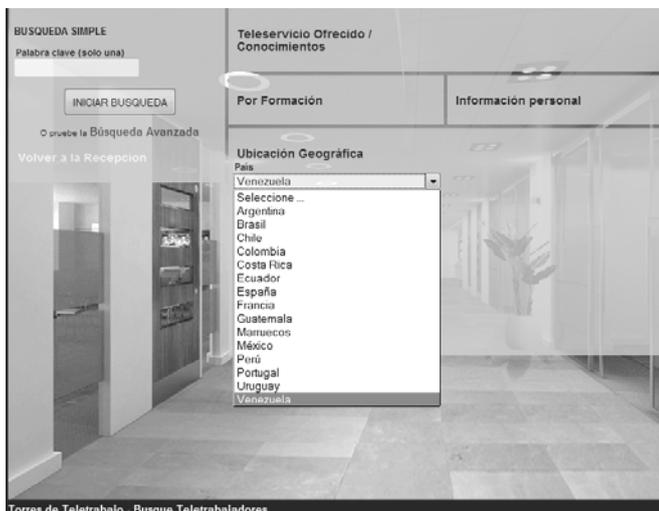
Activity	Total
Enterprise Administration	8
Public Management and Administration	1
System Analysis	3
Architecture	1
Counselling in Foreign Trade	1

---

[15] Although we lack official statistics, it is said that in Argentine we have some 1.6 million teleworkers. *http://www.puntojus.com/index.php?option=com_content&view=article&id=84:mas-de-1600000-de-teletrabajadores-seran-incorporados-a-las-paritarias&catid=61:el-pais-de-las*

Counselling in Foreign Trade – Pension-er	1
International Legal Counsel	2
Secondary Education Graduates	5
Library Technology	2
Call Center	1
Education Sciences	3
Exercising Sciences / Physical Education	1
Physics	1
Cosmetic and Foreign Trade	1
Computing	5
Audio-Visual Communication	2
Social Communication	6
Accounting/Auditing	18
Law	6
Image and Sound Design	3
Outfit Design / Textiles / Fashion	1
Graphic Design	9
Economics	2
Education	8
Finance	1
Hotel Administration	1
Engineering – others	3
Electrical Engineering	1
Electronic Engineering	4
Industrial Engineering	2
Computing Engineering	8
Chemical Engineering	2
Telecommunication Engineering	1
Literature	5
Marketing	5
Environment	1
None	2
Nutrition	1
Dentistry	1
Others	4
Landscaping	1
Journalism	4
Commerce studies	5
Processing / Total Quality	1
Programming	2
Psychology	9

Advertising	2
Human Resources	9
Public Relations	2
Secretarial skills	11
Industrial Safety	9
Sociology	2
Technician	2
Information Technologies	1
Telecommunications	4
Social Works	1
Translation	5
Tourism	5

208

Teleworkers age-range:

Age range	Total
Up to 18 years of age	0
19-35	71
36-45	54
46-55	48
56-65	21
Over 65 years of age	5

And the classification according to gender is:

Gender	Total
Male	84
Female	124

The above tables show the variety of professions that can be included in this form of work. The most outstanding ones are accounting activities, auditing, business administration and secretarial skills. Then we find web designers, psychologists, human resources and industrial safety.

The largest age group corresponds to teleworkers between 19 and 35 years of age, representing 34% of these workers and after that we see that it becomes less relevant. It is also noted that most workers fall within the 19-55 age range. This group represents 83% of teleworkers.

As regards gender, 59,6% are women.

RESULTS OF THE SURVEY WITH TENANTS

In order to prepare this paper a customized survey was conducted with 10 randomly selected tenants. The questions in the survey were as follows:

1 - Why did you join Telework Towers?
2 - What do you think are the benefits of having a virtual office in TT?

3 - Do you think your opinions are being considered?
4 - Do you think the price of $ 25 or U.S. 7 is a fair value for this service?
5 - What do you think of making a monthly training course certified by CEDTEL?
6 - Do you think that telework is sufficiently known in the labor market?
7 - Do you think that actions taken at TT are the correct ones?
8 - What would you propose in order to improve TT?
9 - Do you think that a web site such as TT was necessary?
10 – Please let us know your comments and suggestions. They are welcome!

We have grouped the responses as follows:

Why have you joined TT?
The answers are different in each case. Some were interested because they were already acquainted with telework, others because their need to work, some women because they are mothers of young children, and others because they were looking for a serious site to offer their services.
All of them coincide in that TT is necessary in present times, even though some of them have had no contacts from their offices.

The main benefits that virtual tenants find are:
- An innovative site, well organized and with future.
- It allows products or services to be presented with professionalism in a business environment.
- Permits teleworkers reunions.
- Teleworkers can have several bosses and a variety of jobs.
- Services are offered with expanded geographical reach.
- Reliability about my services is increased.
- Stronger professionalism at the time of presenting our products and services, with standards and norms clear to everyone.

Costs
Regarding the value charged, most respondents consider that it is affordable, but as many of them are still unemployed any cost is difficult to meet. The reason for TT not being a free service is precisely to increase commitment and participation of tenants. This allows economic independence and self-sustaining opportunities. For the time being, TT does not cover its own costs, but all the amounts collected are reinvested in advertising.
For those who are going through economic problems, TT offers the possibility of payment through services. One of the TT premises is egalitarian conditions for all.

Opinions agreed by all
TT was built based on the opinions of people who were interested in the project. At the beginning, participation was free for everyone to comment on their needs and their opinions on the site in the future.
This was useful to improve our search engine, details of the images, adding a tool room allowing users to have access to other benefits such as having a virtual classroom, service discounts, and the possibility to take CEDTEL courses for free, and so on.
The opinions of all those who participated were heard.

Training
All respondents without exception believe that training is essential in telework in order to

increase labor development and the possibility to get trained and receive a certificate is an added value offered by TT

Knowledge of Telework by society

All without exception have found that telework is still unknown by a large sector of society. Some even claim that telework is not only little known and for that reason dissemination activities are an essential commitment for TT.

Suggestions received

• If possible, I would like meetings to take place every fortnight in order to keep closer contact and frequency of communications in the community.
 • Go ahead!
• Present both assistants and secretaries in a similar manner in the search engine.
• I consider that TT should be more advertised among clients rather than users. I understand that this is business but its success depends primarily in capturing the attention of the demand. I believe that actions in this regard are not enough.
 • Create ambassadors in each region in charge of disseminating the project.

SETBACKS

The following points summarize the main difficulties found to date. We have added some comments (see letters) and actions to some of them:
 1. People expect that what is offered on the Internet is cost-free.
a. TT is a small-investment individual venture that had no sponsors or financial support. Therefore it requires the efforts of everyone, making growth slower and with the need of implementing communication strategies and payment alternatives for tenants in order to make TT self-sustainable.
 2. Many people expect to receive working proposals immediately after an office is rented. However, the presence on the internet not always receives the response at the time it is expected.
 3. Capturing the attention of the demand is the most difficult task.
a. Ignorance on telework and doubts generated by recruitment make the capturing of potential clients more difficult.
b. It has been reported that some visitors prefer to visit the web site of the teleworker, and contact them from there. We are now developing a click – counter device for each are of the offices.
c. We are continuously reinforcing our advertising efforts.
4. The lack of experts or Internet sales activator to accelerate the dissemination of the site among companies.
a. We are looking for an expert to improve the results of visits and engagements.
5. It is difficult to encourage participation.
a. Many tenants rent the office in the same manner they used to send their resumes, i.e. in a passive manner. This is a demonstration that the value of participation and collective effort has not yet been completely understood.

SOME FINAL THOUGHTS

Telework Towers is an enterprise that it is only possible at present. TT would not exist without the internet. It requires the efforts and the opinion of all those involved, and for that reason they will take into consideration the suggestions raised by the abovementioned survey.

As teleworking develops in the region and worldwide, the possibilities for growth and labor opportunities will also multiply.

The Etis-Lac Research detected great interest of companies in the hiring of services in Latin America, but at the same time some limitations were found, as detailed in the background section herein. Some wording used by teleworkers in the survey has demonstrated that the concerned of the companies were similar to theirs. For this reason, TT has provided some solutions that can be summarized as follows: reliability, clear rules and regulations, innovation, professional services, enlarging the labor market, being together, all this comprises TT.

We believe that additional time is needed for telework to experiment further expansion and also we will have to see if all stakeholders, particularly TT-tenants are willing and able to wait for that to happen.

Activation of the demand is not an easy task, and therefore we have to try different means and continue to invest to that TT is known to everybody and will eventually become a landmark in the case of specific hiring of professional teleworkers.

Telework type of work organisation and the structure of Intellectual Capital in two modern Finnish companies at the beginning of 3rd millennium

Juhani PEKKOLA

Research Director. Adjunct Professor, Social and Health Care. Kymenlaakso University of Applied Sciences

www.kyamk.fi
juhani.pekkola@kyamk.fi

ABSTRACT

The format of standard accounting model in companies is ca. 400 years old and based on material, tangible, wealth. The concept of Intellectual Capital (IC) was introduced in 1969 by Kenneth Galbraith. He considered IC as a dynamic but not a visible matter, which is connected with accumulation of value. The idea of IC is to describe the whole, real value in company, that is: gene–rate the complete asset by combining material and immaterial wealth.

There is no holistic definition of IC. The focus lies in studying the functions and impacts of various factors within intangibles. Many companies have built Intellectual Capital Accounts of their own. When the knowledge intensity increases in economy, it is all the more reasonable to study the functions of organisations by using IC-theory in connection to the work organisation. The nature of talent, actions, strategy, resources and the needs of the customers define the substance of IC. Therefore, every workplace should estimate its own IC-model.

Telework refers to the formulation working environments and working time by using information and organizational technologies. It is reasonable to understand "work place" in four dimensions; as a physical, social, virtual and mental working environment. The first three are conceptual environments in which the production of ideas and thoughts can be supported in mental – individual and shared – consciousness. Telework comprises the use of human talent and motivation which is boosted with technology (Engelbart 1962) and synchronical and asynchronical time concepts. Telework as a model of work organisation is neutral. That is, from the economical or social point of view, the consequences of telework applications may lead to positive or negative direction. Goals, business strategy, organisational applications and nature of management have an impact on these outcomes.

In two Finnish companies the elements of efficiency and drawbacks of telework were defined in empirical case studies. At the same time, the nature of telework was studied in concepts of business strategies and business environment. On the basis of this information, a theoretical and empirical telework related model of IC was generated. The main elements of this model are human- and structural capital. The latter is divided into customer- and organisational capital. Organisational capital consists of innovation- and process capital. Both the positive and negative elements of telework are demonstrated in this IC-model.

GREAT EXPECTATIONS NOTWITHSTANDING

It has become customary to write that "despite the great expectations, telework realized not in anticipated manner." This refers to some estimates made in the 1980s and 1990s about the complete transfer of work from traditional workplace to home. Usually, such texts convey the intention that telework "did not succeed". How should this be interpreted?

People live in the world of series of changes, moving in different directions. At every moment, many ideas differing from or even contradicting each other are true at the same time. However, in their everyday flurry people expect to have just one, preferably simple solution. It is the task of social scientists, especially those focusing on working life, to explain how ideas can appear to be contradictory and still be true at the same time. When describing social world scientifically, one has to be careful in his fascination of research materials, scientific definitions and the results of previous studies so as not to be cornered by the uncomfortably complex "reality" that defines all categorical statements.

In 1990s, it became common to start using computers to assist people's work. The expansion of the Internet led to radical changes in the documentation, storage and search of information. At the same time, the information aspect of work became dominant, and all the more often the work tasks were related to creating and distributing information. The tasks no longer required much physical performance but they became psychologically more demanding.

Especially managerial employees suddenly had more alternatives as to where to do their work. Experts still have their desks and work stations but they also work at home, during conferences, at their customers' facilities, during commute, and even in their spare time while travelling or staying at their summer cottages. This is made possible by the information technology tools and networks. In addition to the three-dimensional surroundings of our workplace, we also work in a social and virtual environment.

The employees now have the chance, even responsibility, to be flexible about the place where they do their work. As early as in 2004, 40 % of the Finnish employees occasionally worked outside their workplace, and 25 % occasionally worked from home. The use of computer technologies no longer classifies workers. The forms of telework have become routine for managerial employees, and the practices are spreading among all levels of employee positions.

Usually, telework is seldom explicitly agreed upon by the employee and the employer and therefore it may appear "invisible". The arrangements are unofficial and often based on expert autonomy, that is, the employees' possibility to organize their work independent of the employer. The employees working from home or while travelling do not consider themselves to be teleworkers, they are simply working in a convenient way. Also, the surveys determining the amount of telework on the basis of – missing - official and formal agreements, or a high number of teleworking hours, increase the invisibility of telework. The internal prerequisites and administrative decisions of such surveys significantly constrain the study which then fails to meet the quantity criteria. The lack of supporting survey reports has led to the conclusion that telework does not exist. Because of this approach, the unofficial or unidentified work arrangements pass unnoticed. As far as the social sciences are concerned, the situation is further complicated by the fact that the unofficial nature of telework is often a deliberate choice, and may have very interesting reasons. Therefore, it is essential to study the concepts of working time and workplaces in all their diversity.

After 25 years, the apparent forms of telework are quite different from the forecast made in the 1980s. There exists a wider variety of working hours and workplaces. The transition has not been into full-time home-based work, but into technologically, even organizationally, supported working environments. The expectations may have been great, but the changes in organizing work were more extensive than expected. However, the expectations were not directed at the paradicmatical changes in the way people work. Therefore, they could not be met. This is why new hypotheses are needed.

Satu Ojala (2009) has conducted pioneering research in the field of "distributed work", defined terminology and determined the relations between terms, and illustrated the dimensions in which the various forms of work are structured. One cannot help but agree with the statement she and Sullivan (2003) made: "The different forms of work should be assessed on the basis of the collected materials without preconceived constraints, and it is important to create and operationalize a framework for unprejudiced research.

THE CONCEPT OF TELEWORK

According to Glaser and Strauss, a concept is a structure of the conceived features. Evidence is a theoretical generalization of the nature of a system, it forms the foundation for categories and describes the concept. The concept proper is unchangeable, although its essential characteristics may have different interpretations over time. It has its meaning which relates to time, more specifically, the theoretical-practical way of thinking in which it was created. (Glaser & Strauss; 1967, 23., compare; Björkegren & Rapp; 1999, 163.)

The definition and usage of the concept of telework is inseparable from the context. The content of the definition is determined by what the term telework refers to, for example, physical distance, varying working hours and places, or participation and presence in a work process. Scientists have used telework to generally describe context in its different stages. Telework, eWork, and presence refer to the idea of being present in a process which is progressing in different places. The core content in the organization of telework relates to the facilitation of this participation, whether it emerges from an individual or organizational initiative.

Ignoring here the terminology relating to the history of the definition of telework, the term – telework- itself and the concepts of eWork and presence can be given a common operative definition:

The concepts of telework, eWork and telepresence are considered as a whole to which the term *telework* refers. Telework seeks to create temporal and spacial arrangements to facilitate working methods that foster an innovative environment in order to produce knowledge. This may be done in physical, virtual or social platforms or spaces as long as they are used to support psychological or conscious individual or group processes to create knowledge. To this end, the physical, social, and technological factors of working and business environments should be interrelated in ways that improve thinking and innovating.

KNOWLEDGE ECONOMY AND INTELLECTUAL CAPITAL

The concept of *intellectual capital* was first used by John Kenneth Galbraith in 1969. He considered it as a dynamic but invisible factor to which the accumulation of value in business applications related. (Campbell & Grantham; 1998, 171.) There is no comprehensive definition of intellectual capital but the term relates to the factors involved in the production of knowledge whose operative functions are interpreted in parallel.

Stewart regards information and knowledge as public commodities that can be used without being consumed. The number of users has no effect on the production costs. An item containing knowledge is accessible within the limits of physical and economical realities but the knowledge the item conveys is not restricted by these limits. The use of knowledge is often controlled by the consumer, not the producer. Also, knowledge can exist in several places simultaneously. It can be divided but no longer returned to the sender. Knowledge is time-sensitive. It is valuable because it can be found in abundance and refined, and made more concise. The initial production costs of knowledge are usually high but reproduction and distribution is inexpensive. [16] (Stewart; 1997, 169-173.)

---

[16] Prior to the economic bubble of the millennium, the knowledge economy was sometimes viewed with hyperoptimistic expectations: Stewart claims that the principles of the traditional economic theory did not apply to the knowledge economy. Demand and supply will not determine the nature of production through price mechanisms because the roles of the buyer and seller, or the producer and consumer are intermixed. Also, the logic of marginal utilities in diminishing investments is inapplicable to knowledge production. Rather, excessive production may increase the profits. Knowledge production has significant returns to scale, and its networking benefits will lead to better usability and higher market value as the number of users grows. The wide-spread usage of a production model based on knowledge production will lead to a standard to which the competitors are forced to adjust. (Stewart; 1997, 173-177.)

Knowledge as a product brings new qualities to business operations in relation to product development, distribution and production organization. In the world of network co-operation, the roles of the producer and consumer are becoming more versatile. Nevertheless, it is still imperative to find relevant market or application areas for the produced knowledge, and the distribution of knowledge has its cost. Especially, customer-specific knowledge cannot be produced endlessly or without expenses. The production of knowledge may also blow out of proportion resulting in what is called information fatigue when it becomes difficult to interpret and process information. Stewart also has admitted the problem of knowledge overflow (ibid. 130.) (Pekkola; 2002, 137.)

The criticism towards the so called new economy is founded in the relation between power and efficiency. Virtual organizations and markets offer an ideal environment to make the production processes qualitatively more flexible. However, control maintenance, lack of trust, and the problems in generating knowledge or the asymmetry of knowledge hinder virtualization and the applications of telework. (Etzioni; 1977, Pekkola; 1993, 97-100, 246-248, 255-258., Gareis & Mentrup; 1, 2001.). An attempt to solve the problem has been a network organization where technology is used to improve internal flexibility and create long-term relations of trust. (On the e-Work Frontier...)

How then could the operations of workplaces be modeled amidst the increasing knowledge intensiveness? What are the strategies that are directed at the personnel and the organization of work, and what are the trends that relate to intellectual capital?

STRUCTURE OF INTELLECTUAL CAPITAL

The facts pointing at the growing role of human factors in economy include, for example, virtual working spaces, networking operations partially based on social competence, flexibility expectations, work processes based on independent and responsible consideration, and the transfer of supervisory functions to the workers. (Suomi & Pekkola; 1999.) The theory of intellectual capital has aimed to explain the significance of human and social factors in business.

CONCEPT OF KNOWLEDGE IN THE THEORY OF INTELLECTUAL CAPITAL

Sveiby constructs his theory of intellectual capital upon the arguments about human nature and knowledge: people are the only active operators in business life, and they create the internal and external structure of business enterprises to manifest themselves. (Sveiby; 1997, 8.) Knowledge is a resource that will qualitatively grow and become more significant when shared. The production of knowledge is a synergetic process serving the customers' needs but also changing the system where knowledge is originated. (ibid. 22.) Sveiby regards knowledge as a process and describes information as compressed knowledge served to the customer. He emphasizes the significance of competent customer-oriented networks of employees in the production of knowledge and core business operations. (ibid. 24-28.)

Sveiby refers to Shanon's theory (1959) of the entropy of information and views knowledge as non-entropic by nature. The contents of information are defined by the recipient, not the sender[17]. He considers information significant only if it is part of the knowledge forming process. There are many ways to deliver knowledge by means of task performance, and according to Sveiby, the administrative and expert approaches differ from each other. The bitter "power struggles" are often an element of a knowledge-intensive organization. (Sveiby; 1997, 40-50.)

Sveiby says knowledge is tacit, referring to the uniqueness of the search of profound knowledge, the dual character of knowledge as a public and private entity, and the attachment of know-

---

[17] Sveiby even goes as far as to describe information as meaningless and of low value.

ledge to prevailing practices. He describes knowledge as a socially constructed phenomenon manifested in the language. (ibid. 30.) On the other hand, Stewart emphasizes the contextuality of knowledge. It is useless unless it relates to an existing strategy. (Stewart; 1997, 70.) Sveiby regards competence both as an individual and socially related quality, and defines knowledge as an ability to function. Competence may lead to expertise manifested in creating one's own rules of operation, and breaking conventional norms. He regards knowledge as an individual operative hierarchy developing from an ability to competence, and further to expertise. (Sveiby; 1997, 29-39.)

KNOWLEDGE PRODUCTION PARADIGMS

Sveiby claims that work and production can be organized according to an industrial model based on the utilization of "materialistic" instruments. In the evaluation of knowledge-intensive organizations, this mainly refers to the paradigms related to informatization and knowledge production. (Sveiby; 1997, 130.) (Figure 1.) In informatized production, knowledge is a by-product, whereas within knowledge-based strategies knowledge and knowledge-production are sold as an independent process. In his discussion about the instrumental value of knowledge in the generation of operations, Sveiby summarizes the elements of knowledge control as follows:

Figure 1. The Principles of Knowledge Control

Knowledge is the capacity to act	Knowledge cannot be controlled – only the space where it was created	Information is knowledge made visible
This ability increases when it is used	Shared knowledge is doubled knowledge	...but a major portion is lost in conversion...
People have an infinite ability to create knowledge	The sharing of knowledge is based on trust	The benefits of information are dependent on the use of knowledge

(Sveiby; 1 Sept 2000.)

INTELLECTUAL CAPITAL AND KNOWLEDGE-INTENSIVE ORGANIZATION

The principles of the accounting system are 500 years old, and the balance sheet model currently in use was introduced in the 1860s. According to Stewart, it is suitable for the evaluation of industrial companies and the monitoring of the visible balance sheet. However, it fails to recognize several other value-creating factors. In knowledge-intensive organizations, the traditional balance sheet is rendered irrelevant because the production costs are generated by research and development, human capital, and services. (Stewart; 1997, 58-59.) A Danish survey concluded that the benefits gained by evaluating intellectual capital relate to the identification of the actual resources, the possibility of different parties to assess the company strategy, and the increase of the company's market value and the investors' interest. (Intellectual Capital Accounts.)

Stewart cites Klein and Prusak's definiton of intellectual capital as being "intellectual material that has been reached and attached to a product in a value-adding way", and describes

intellectual capital in this way: Intelligence is converted to resource when freely moving intellect is usefully organized. This requires that it is given a structured form (mailing list, database, agenda, process description); it can be described, divided, utilized, and attached as a part of something that could not have existed if knowledge had been left scattered. Intellectual capital is compressed useful knowledge.[18] (Stewart; 1997, 67.)

HUMAN CAPITAL

Human capital aims to bring innovations to an organization, and it is manifested in products and services whose production should be promoted by the business process. Stewart is well aware of the twofold nature of the way human capital grows. On the one hand, an organization increasingly uses human competence, on the other, people gain more knowledge than the organization needs. In order to better utilize people's knowledge, the company should develop methods to make private knowledge common and tacit knowledge explicit. (Stewart; 1997, 86-89.)[19]

STRUCTURAL CAPITAL

Stewart signifies the importance of the company and context in the production of knowledge. The knowledge necessary for business operations can be created in an environment where the motives of structural capital development are constituted by quick distribution of information, the growth of collective knowledge, quicker management level decision making, and the growth of employees' productivity. From the customer's point of view, it is important to organize the resources and flow of information. Information networks can help achieve this goal by establishing bulletin boards, discussion forums, www-systems, and educational programmes. Stewart claims that the accumulation of information and wisdom produces knowledge and is, per se, a significant economically beneficial factor. The information networks enable a quicker and more extensive distribution of expert knowledge, and they support worldwide operations. (Stewart; 1997, 108, 110-113, 124.)

Stewart views structural capital as a substance of economic operations. Also, he considers an excess of information as the greatest problem in controlling the structures, and warns against making unreasonable investments in knowledge. By this he means that discrete pieces of knowledge and expertise should not be stored within an organization unless they are structured in a way that utilizes their integration and synergetic qualities, and benefits customers. Intellectual work is rarely routine since the transactions are unique. It is impossible to predict exactly what kind of knowledge should be obtained. Intellectual capital serves two purposes: it can codify the transfer of knowledge resources and, on the other hand, it can link people to data, experts, and knowledge producing units. (Stewart; 1997, 128-132.)

CUSTOMER CAPITAL

---

18 Cf: Intellectual capital is the command of such knowledge, applied experience, organization technology, customer relations, and competence that provide Skandia with a competitive edge on the market. (Edvinson & Malone; 1997, 44.)

19 Stewart also manages to problematize the importance of education. He reckons the varying significance of educational strategies among the personnel categories, and a general irrelevance of education. According to Stewart, the relationship between human capital and education should not be assessed based on the variety of knowledge elements but the capacity it creates for innovation production. (Stewart; 1997, 93-95.)

The most important aspect of customer capital are the networks that are aware of the customer's needs. (Stewart; 1997, 144-145.) It is sensible for organizations to establish electronic platforms for mutual contact in order to support the quick distribution and growth of information. Stewart regards the empowerement of customers, provision of individualized service, and profit sharing as business strategies. These strategies can be achieved if all the complementary functions of organizations co-operate in the shift from pure buy-sell operations to operative co-operation. (Stewart; 1997, 149-161.) (Figure 2.)

Figure 2. Integration of Business Operations as Intellectual Capital Functions
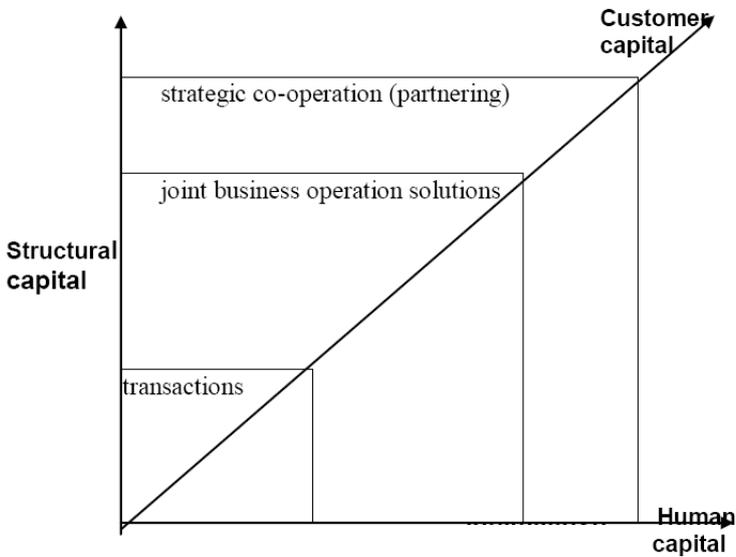
Stewart; 1997; 158.

Intellectual capital consists of human and structural capital. The management is responsible for integrating the products of human capital into structural capital. In contrast to structural capital, human capital cannot be owned by a company. By evaluating and developing intellectual capital, a company seeks to improve its market position. Skandia limited considers intellectual capital, alongside with values and technology, to be one of the three major factors facilitating development into an intellectual organization. (Edvinsson & Malone; 1997, 45-48.) (Figure 3.)

Figure 3. Value Description Model of Skandia
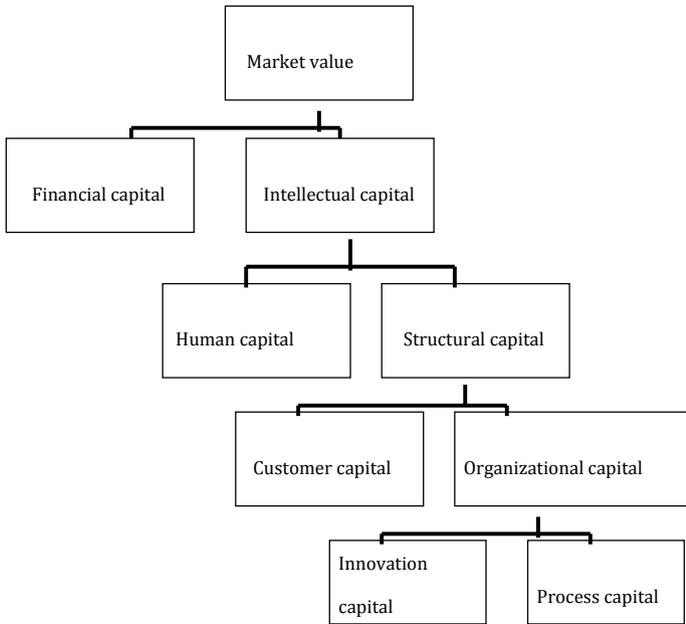
(Edvinsson & Malone; 1997, 52.)

INTELLECTUAL CAPITAL AND TELEWORK

The discussion on intellectual capital (IC) relates to telework especially concerning know-ledge control. Sveiby's notion of focusing on the space where knowledge is created refers to the conceptual organization of operations and work. Telework can be regarded as a special case of this approach. Structural capital contains the technological equipment and systems that enhance opera-tions. In part, telework is based on information technology, thus the special features of information systems can be utilized. The third common interest for telework and customer capital are the platforms for mutual contact between organizations. The maintenance of customer relationships is said to be a particularly emphasized motive for telework.

In early literature concerning intellectual capital, there are only few references to telework, or any other unorthodox form of work organization.[20] The personnel is seen as operationally posi-tioned, and the tensions between the personnel categories are regarded as static elements dictated

---

[20] The article by Campbell ja Grantham (1998) is an exception. Despite the title, it relates to the general discussion on the theory of intellectual capital and the operational abilities of a company. The article con-cludes with an emphasis on the importance of customer relationships.

by the organization structure and professional competence. (Sveiby; 1997, 53-63.) This approach makes it difficult to realize the opportunities for change. The analysis of the nature of intellectual capital is affected not only by social issues, but also aspects concerning ethics. (Koskinen, 2000, 80.)

The problem with IC framework of reference is the lack of focus on operational spaces. Apart from Sveiby, at the beginning of the millennium there were no studies into the nature of work in a virtual or conscious space, or into the concept of time as an organic process factor.

The efficiency factors of telework are essential qualities of structural capital. They are related to the internal structure of the organization, customer relationships, and operations in the chains of added value. Knowledge does not exist irrespective of space (Stewart; 1997, 171.) but is manifested in mental space. This enables the processing of knowledge in virtual, physical and social spaces.

Intellectual capital is in relation to the production of paradigmatic change. Innovation is a change in a way people think and act. The organization of work on the basis of virtual and mental space promotes the organization's ability to produce innovations and wide-ranging conceptual changes that, in turn, will help adjust to the chains of added value and create networks. Telework is a way to enhance the production of innovations and ideas with added value.

As a form of work organization improving and facilitating task completion, telework should conform to the methods intellectual companies are using. According to the theory of IC, knowledge production should be escalated within the organization, especially in the customer and strategic partner networks. As far as it is understood as eWork, or work in the networks, these activities are extremely relevant in respect to telework.

INTELLECTUAL CAPITAL AND THE BENEFITS AND DISADVANTAGES OF TELEWORK

Telework is a neutral form of work organization. Its applications may be either beneficial or disadvantageous with respect to the employees, the organization or environment. From the perspective of business operations, telework serves as a means of adaptation to the frequent changes in the organization and environment. In Finland, an essential element of telework is that the workers take responsibility for their task performance and become their own supervisors. Telework enables the choice of an innovative undisturbed work environment, the use of physical and virtual spaces, and the utilization of network applications. The most significant benefits of telework relate to individual working practices, the organization of workplace and working hours, and the combining of work and personal interests. (Pekkola; 2002, 232-236.)

The major disadvantage of telework is the increased number of working hours. Typically, this occurs when the personal responsibility or supervisory functions, and the lack of control from within and outside the organization lead to changes in standard working hours. (Aitta; 2000, 156-157.) Another disadvantage for managerial employees might be the general increase of quantitative labour market flexibility. Also, a potential problem arises if telework and its output share are not agreed upon by contracts. Other disadvantages are considered minor, although they are significant at an individual level.

When the benefits and disadvantages of telework are placed within the framework of the theory of intellectual capital, the focus is mainly on innovation and process capitals because the benefits are primarily obtained by individual employees. When work is organized in the forms of telework, it usually occurs independently of the company's or organization's business strategy. The efficiency factors of telework are not absolute but relate to the nature of the business strategy and the developing stages of product and process innovation. Basically, the more comprehensive and integrated the policy of telework is, the more beneficial it will be. Fundamentally, the efficiency factors are associated with promoting human activities.

At an individual level, the benefits obtained in the area of innovation capital become apparent in the pacing of work and in the utilization of suitable working environments. The production of innovations and ideas with added value is supported by expanding task processing and eliminating disturbances. Disturbances include the norm to increase working hours, the blurring of working and free time, as well as the quantitative labour market flexibility concerning expert positions.

The sphere of process capital includes the independence of work, decentralization of work organization, flexible use of human resources, the increase of employee input, and the utilization of technological efficiency factors. A disadvantage is the potential friction among the employees.

The benefits of organizational capital include, for example, the principle of emphasizing the quantity and quality of the performed tasks, and the utilization of employee and even customer premises. Potentially, the lack of sufficient negotiation and contract practices in respect to telework may cause problems.

In the sphere of customer capital, benefit is gained by maintaining customer orientation in telework, and directing operations towards value chains. Networks may contain parts that are common to several organizations, which is typically beneficial for teleworkers.

Benefits provided by the sphere of structural capital include the adaptation to organizational changes, utilization of network applications, and temporal and spatial adjustability of work processes. However, the use of networks is constrained by the costs.

Human capital enables an extensive use of human resources and the combining of occupational and personal responsibilities through telework. The employees can choose not to commute or travel in business and thus reduce their impact on business expenses and environment, as well as rationalize their working hours. (Figure 4.)

Irrespective of formal status, lower white collar employees can innovatively organize their work through professional development. This is especially benefitting female workers. (Cf. Sveiby; 1997, 53-63.) On the other hand, this also relates to the use of human capital or how competence is utilized and increased in the sphere of organizational capital, and in the processes and innovations closely associated with it.

The efficiency of telework is dependent on the distribution and production of new knowledge and innovations. Participation in a social process enables participation in a higher number of more diverse processes than would be otherwise possible. It also makes it possible to select the suitable processes and people participating in them. Telework offers tools for co-operation with several other people, while providing an environment for undisturbed individual concentration. The organization of work facilitates concentration on individual and social levels. Efficiency at work equals to being present in a social structure in such a way that more space is created for individual and shared thinking. Produced efficiency is a process innovation.

In terms of intellectual capital, telework requires that the structure of the working spaces must support the production of ideas and innovations. The relationship between human and structural capital is essentially important. The elements of structural capital must enable the realization of human capital. Human capital is not an independent part of intellectual capital, but the functions of human capital, such as education and well-being, become apparent in the ways human capabilities are expressed (present) in work processes, whether within an organization or in relation to customers or other external actors. Finally, innovation and process capitals are derivative of organization and customer capital.

Figure 4. Intellectual Capital and the Benefits and Disadvantages of Telework

Intellectual capital

Structural capital

+ Adaptation to organizational changes
+ Utilization of general benefits of information systems
+ Expanded communication through information systems
+ Synchronism / asynchronism of work processes
+ Utilization of information technologies in respect to the temporal and spatial qualities of work processes
- Technological systems as a cost factor

Human capital

+ Diverse use of human resources
+ Reduction of work trips
+ Combining of occupational and personal responsibilities
- Ambivalence towards women working at home

Customer capital
+ Customer orientation
+ Orientation towards value chains
+ Shared parts of information networks
+Utilisation of customer premises and information systems as well as joining customers to own information networks

Organizational capital

+ Emphasis on the quantity and quality of task performance and running of operations in suitable spaces and facilities
+ Utilization of employee and customer premises
- Partial lack of agreements on the direction of telework
- Lack of agreements on and practices of output share

Innovation capital
+ Concentration and elimination of disturbances
+ Selecting suitable work environment
+ Work in physical and virtual spaces
+ Flexible working hours and division of working time into periods
+ Prolonged processing, documentation and distribution of tasks
+ Work motivation
- Increase of standard working hours and blurring of work and free time

Process capital

+ Independence of work and discretion
+ Reduced operation costs
+ Decentralization of internal organization
+ Flexible use of human resources
+ Increased work input
+ Utilization of the efficiency factors related to technologies and work organization
+ Reduced number of marginal tasks
+ Flexible / longer working hours
- Envy and inappropriate comments

REFERENCES

1. Ahonen Guy; Henkilöstötilinpäätös organisaation ohjauksen välineenä, teoksessa: Onismaa Jussi, Pasanen Heikki, Sprang Timo (toim.); Ohjaus ammattina ja tieteenalana 2, ohjauksen toimintakentät, Porvoo, 2000.
2. Aitta Ulla; Työkuormituksen ja työn hallintaan liittyvät ongelmat ylempien toimihenkilöiden työssä. Teoksessa: Lehto & Järnefelt (toim.); 2000.
3. Björkegren Charlotte, Rapp Birger; Learning and knowledge management, A theoretical framework for learning in flexible organisations, Teoksessa; Jackson (toim.), 1999.
4. Campbell Alistair, Grantham Charles; Organisational assesment in the distributed work environment, Using measures of intellectual capital in the planning process, teoksessa; Jackson and van der Wielen; 1998.
5. Edvinsson Leif & Malone Michael S.; Intellectual capital, realizing your company`s true value by finding its hidden brainpower, New York, 1997.
6. Engelbart Douglas C.; Augmenting Human Intellect, A Conceptual Framework, Air Force Office of ScientifiEc Research, AFOS-3223, Washington D.C., 1962.
7. Etzioni Amitai; Nykyajan organisaatiot, Helsinki 1977.
8. Gareis Karsten, Mentrup Alexander; Virtualisation of Labour Market Transactions: Technological Potential and Status Quo, Star (Socio-economic Trends Assesment for the digital Revolution), Empirica, Issue Report N. 7, May 2001. Draft v.2.
9. Glaser Barney G., Strauss Anselm L.; The Discovery of Grounted Theory, Stategies for Qualitative Research, New York, 1967.
10. Koskinen Lennart; Kannattaako etiikka? Keuruu, 2000
11. Ojala Satu; Työ hajautuu – missä käsitteen rajat? Työelämän tutkimus 2/2009.
12. On the e-Work Frontier: Developments Towards an Internet-based Labour Market in Forerunner Industry: http://www.databank.it/star/list-issue/d_2.html
13. Pekkola Juhani; Etätyön soveltaminen henkilökohtaisella, tuotanto-organisaation ja työmarkkinajärjestelmän tasolla, Työpoliittinen tutkimus Nro 147, Työministeriö, 1993.
14. Pekkola Juhani; Etätyö Suomessa; Fyysiset-, virtuaaliset-, sosiaaliset- ja henkiset työtilat etätyöympäristöinä.(Telework in Finland; Physical, virtual, social and mental spaces as working environments for telework.) Swedish School of Economics and Business Administration; Ekonomi och samhälle 104, Helsinki 2002.
15. Suomi Reima, Pekkola Juhani; Management rationalities and virtual working, Adjusting telework to different organisational cultures and rationalities. Teoksessa; Jackson Paul (toim.); Virtual Working, Social and organisational dynamics, London and New York ,1999.
16. Stewart Thomas A.; Intellectual Capital, The new wealth of Organizations, New York, 1997.
17. Sveiby Karl Erik; The New Organisational Wealth, Managing & Measuring Knowledge-based assets, San Francisco, 1997

EPILOGUE
2010 Argentina Telework congress: A brief review of a fantastic event!

Sonia BOIAROV

Organizer of the 2010 Argentina Telework Congress.
USUARIA ICT Commission

Although the exclamation marks may seem to indicate a too enthusiastic statement, they precisely portray this academic event hosted in Buenos Aires for the first time ever. And this epilogue is precisely a report on that event, which I would very much like to share with you.

In the year 2008, during the Telework Congress held in Poland we proposed Argentina as the venue for the 2010 event. The proposal was accepted and confirmed in August of that year.

We rapidly organized things so as to have a pre-event in Costa Rica in 2009. The main purpose was to make all the region part of this news so that they might go to Buenos Aires on the following year, a country which generally is not a holiday destination for most of them.

The pre-telework event finally took place, organized by the Technical Secretariat of the Digital Government of Argentina, The National Distant Education University, and the Costa Rican Power Institute, and thanks to the IDRC, we were able to attend as invitees, having also the privilege of the presence of Alvaro Mello from Brazil, Andrew Gaudes from Canada and Francisco Ortiz Chaparro, among others. The IDRC also made the announcement of the granting of two scholarships to be awarded to the best papers presented from Central America and the Caribbean. This encouraged the involvement and the attendance of these countries in Argentina on the following year.

The event allowed recognizing that we are witnessing a civilization change and that this demands the society to harmonize to a different digital geography, that must bear in mind education for global competence, labor legislation and regional frameworks that are still tied up to the Industrial Society, the challenge of technological extension and the internet as a public right.

New doubts were also expressed such as "Shall we monitor results or people?", "What about confidence building?", "Are we going inevitably towards telework (the Y generation)?, "How will the new home architectures be so as to ensure productive work?", "What is the priority, employment or structure?

New needs appear in terms of shared spaces (not always the home, or the office, or the mobile device) and also new forms to get organized, such as the virtual building (www.torresdeteletrabajo.com) as you will see in one of the papers selected by the ITA for this book. The new stability is ensured y multiple staff recruiting (Torres de Teletrabajo - Telework Towers) is based on the Etis-Lac[21] research study conducted with the IDRC).

But we had also to face new requirements in terms of self-training, we must be the owners of production media, and develop new professional competences.

The advent of new problems was recognized, such as the need of taking care of conceptual definitions, because of the wish to seek too efficient definitions that are not categorized within any of the new work formats. Another problem is the speed to hire flight teleservices[22] and how they impact the possibility of a new unemployment crisis, the cheap workforce that entrepreneurs are looking for in our region, the cultural change that is still slow in some institutions and the care about full-life telework.

---

[21] www.etis-lac.org.ar

[22] Short-term contracts which are confirmed when there are favorable conditions, for example, in the case of convenient exchange rates. But when conditions are unfavorable, recruitment rapidly migrate to other places.

Several statements were made in the different papers, for example that telework is irreversible, and that although it is at present a voluntary arrangement, it may become one of the work qualifications required for work. Telework is outlining a new right "work from the place you wish to work", and the importance of having opportunities for inclusion that were unimaginable before was highlighted.

Therefore, with this beautiful pre-telework event we arrived in Buenos Aires. The 2010 event was organized by the ITA –International Telework Academy, the ICT Commission at USUARIA and the CEDTEL –Center for Education in Telework, and thanks to the economic support of the IDRC – International Development Research Center, of the Economic Sciences Professional Council and of the Ministry of Science and Technology.

It was attended by representatives from Canada, Japan, Finland, Spain, and offered two video-conferences – one with one expert from Norway and the other one from the USA -. As regard the Latin American and Caribbean countries, there were representatives from Costa Rica, Venezuela, Colombia, Peru, Uruguay, Chile, Ecuador, Mexico and the Dominican Republic.

The program was twofold: The 15th Academic Workshop was a closed event, addressed only to the research community. With the attendance of academics, professionals and politicians, the sessions took place during two days, on 25 and 26 August 2010. Scientific papers were presented on the thematic focus of the event, followed by highly interactive discussions. The result was a Buenos Aires Declaration on Telework. The text of the Declaration is enclosed at the beginning of this volume.

The papers submitted were evaluated by an International Academic Committee, which received the abstracts in the first place, followed by the final papers. It was a tough work which lasted for a year, and although in fact all the papers submitted were highly satisfactory, they were carefully analyzed and approved. Due to space reasons we have selected just a few to be included in this book. The remaining papers are available on the event´s web site, www.telework2010.tic.org.ar and they really deserve careful consideration by the reader.

The activities were distributed among eight thematic panels that followed the three topics proposed: Social Inclusion, New Labor Relationships and Sustainable Development. The desire of those who attended to make new acquaintances, to exchange views on successful results and the endeavors made to disseminate telework in different environments need to be highlighted. A friendly atmosphere could be felt among European and Asian telework pioneers and among the new leaders in the Latin American region. This atmosphere will no doubt last long.

Two main trends were visible. Those who were eager to harmonize the topics referring to the industrial society, to as to adapt them in order to allow their development within the information society and those who were betting on new models, categories of analyzes, and who were picturing future scenarios. No doubt this is an essential combination for telework to make progress in decent and lasting condition.

The activities held on August 26 ended with a presentation of Brazilian music, a contribution of the publishing company Editorial Errepar and with a visit to Workstation, a new space for teleworkers that do not wish to work alone in their houses or at a hotel.

Open symposium. As indicated by the name, this was a public event for the community in general, including entrepreneurs, local and regional governmental institutions and social agents. The purpose of the symposium was to introduce innovations and future trends in an accessible manner, so as to contribute to the general awareness of a type of work that is progressing day after day, as well as its institutional practices. The symposium lasted for a day with lectures by local and international speakers.

The open symposium on the 27th of August was surprising, not only for the size of the audience but also because many of them had no real perspective of what telework is and its real meaning in these days.

After the event, an out-of-event meeting was scheduled with the members of the National Communications Committee – CNC and the persons who had attended the Congress. The purpose of the meeting was to brief those who had attended the congress on the Telework program implemented by the CNC. We are extremely grateful to Mr. Mario Thorp and Mrs. Paola Cardeilhac for facilitating this visit and for their enthusiasm during our visit.

At the personal level this event allowed me to meet again many friends whom I had met during my trips, talks, personal meetings and even through email. For the first time I had the pleasure of seeing them all together. The opportunity was exceptional, as everyone was ready to share unselfishly all the information that the others wished to obtain.

I am certain of the success of this type of gatherings, being all so close together, i.e., telework pioneers and the new leaders that are carrying on with this work arrangement from different perspectives and locations. The event was an opportunity to gather people from over fifteen countries, researchers, professors, entrepreneurs, employees, public agents, teleworkers and the civil society in general, all of them concerned by different topics: inclusion, labor relationships, genre, climate change, legislation, and education, that is to say, all of them together in the same place!

I wish now to take the opportunity to express my gratitude to Mrs. Wendy Spinks from the ITA – International Telework Academy and to their committee for their confidence in accepting Argentina as the venue for the 2010 Telework, and also to Mr. Alvaro Mello, who conveyed the invitation to organize this important event, and of course to our friends at the IDRC – International development research Center and finally to the Agency of the Ministry of Science and Technology, for their assistance in this event, which otherwise would have been unfeasible.

When the 2010 Telework was over, we carried on with a meeting of the researchers involved in the research work on Public Policies and Legislation Models, which is being conducted under the auspices of the IDRC[23]. This was a meeting of dedicated policy makers, who got together on Saturday at the USUARIA premises. They expressed their full commitment with the development of public policies in their countries. The meeting, which had been convened for representatives of five countries, was finally attended by policy makers from eight countries!

The result of the meeting was the need to promote and encourage the work of the FIDT.ORG – the International Forum for the Development of Telework. This forum had been created back in 2003, but almost with no activity since then.

Through the fidt.org we will be able to continue discussion with policy makers, with university and with the experts, i.e. the specialists of today and of the future. A future which will witness the growth of devices, telecommunication and *clouds*, always under the slogan of flexible locations and free time-schedules.

Needless to say how crucial education is for this new kind of work and for the healthy development of the information society in our countries. This is the ultimate challenge that we perceive.

Finally, I will to express my sincere thanks to the team that spared no efforts to ensure the success of the event, working with verve and dedication. Of course we all finished extremely exhausted, but immensely happy to see that telework has finally awaken in the region!

---

[23] www.teletrabajolegal.org.ar