

5. Telework and its effects in Brazil

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INTRODUCTION AND BACKGROUND

The knowledge about the diffusion, performance and potential of telework in Brazil has been inadequate for years. The employment policymakers have based their decisions on stakeholders' demands with very little support of analyzed research data. Better data is needed to feed policy-making, for research, and for the development and deployment of initiatives. In particular, there is a need in Brazil for reliable information about trends – the nature, direction and pace at which people take up telework. This objective could be achieved through studies that take a consistent approach to collecting comparable data, such as the current study carried out by the International Labour Organization (ILO).

While the Brazilian literature about telework contains many positive personal opinions and success stories of specific teleworking programs, the evidence of benefits and problems is relatively superficial, mostly associated with individual company cases and personal opinions of consultants and vendors. In particular, the factors that decisively influence the development of telework are still not sufficiently understood.

There is a need for a more systematic and rigorous approach to test the impact of teleworking programs, and to develop a more general perspective on actual benefits, problems and success factors important to increase the benefits and reduce the problems. The new working environments and work processes are not bearing fruit in many application areas and the key ideas from the research in this field are not being taken up. However, the overall understanding of new work paradigms for the economy and socially sustainable growth is increasing rapidly.

The topic of telework demonstrates the importance of studies regarding how to integrate the most modern technology into organizational behavior. There is still a major shift to be made. Information and communication technologies (ICTs) are maturing, and there is a convergence of devices and tools in the Brazilian environment. However, there is also a lack of

data on the incidence of telework, as well as studies of its effects on workers, businesses and the country's economy.

The Brazilian culture is one of the world's most varied and diverse, owing to it being a melting pot of nationalities – the result of centuries of European domination as well as the practice of slavery. The latter brought large numbers of African migrants across Brazil's borders to live in and influence the local cultures with their customs and ideas. The European settlers also brought their ideas, belief systems and innovations with them, shaping society significantly. All of these different influences have meant that the modern-day Brazilian culture is unique, diverse and very complex. Brazilians, as a nation, place a great deal of importance on the family structure and the values that are entrenched within that institution. Families are usually large, and even extended family members are close to one another, providing much needed help and support to each other whenever and however necessary.

Owing to this diverse heritage, when working in Brazil, cross-cultural management is essential and needs to realize the importance of each person's distinct role within the organization. Many people believe that their supervisors have been chosen because they have more experience than those they manage, and it is, therefore, typically viewed as being unnecessary, and even inappropriate, for them to consult with lower-ranking individuals when making decisions. In many smaller companies, the management style is paternalistic, with the employer taking on a parental role: their objective is to guide employees to help them achieve the company's goals. Nonetheless, when they are empowered and encouraged to do so, Brazilians can be extremely creative and work well in teams.

Brazil's cross-cultural tolerance and readiness for change is apparent, but Brazil remains a country that is cautious in its business dealings. Changes are made, albeit slowly, and require a considerable amount of thought, planning and evaluation. It is important for innovations to have a track record or history demonstrating their benefits if they are to be accepted and implemented.

The fear of exposure and the potential for embarrassment that may accompany failure mean that cross-cultural sensitivity is necessary. While in risk-tolerant environments failure is typically perceived as a learning process that encourages confidence in future ventures, in Brazil failure causes a long-term loss of confidence by the individual as well as by others.

This chapter, sponsored by ILO, is the first of its kind in the country, and is orientated to integrate, refine and validate the existing knowledge in the country regarding telework, and also identify key research needs and the feasibility of expanding the implementation of telework in Brazil.

METHODOLOGY AND MAIN DATA SOURCES

To achieve the objectives of this chapter, the approach defined by the ILO was to explore existing surveys, case studies, articles, monographs and other reports already available in the country. No primary sources of data on telework were available in Brazil; thus, it was necessary to base the analysis and conclusions of this chapter exclusively on available secondary data. The work plan for this study was divided into two groups of activities:

- Information sources definition and questionnaire preparation, which was designed to:
 - ensure a common understanding of concepts across the project and its requirements;
 - enable detailed analysis and synthesis of the questionnaire;
 - include meetings with the community of teleworkers, practitioners and researchers such as the members of Sobratt¹ and GETST² at the Regional Administration Council in the state of São Paulo;
 - include interviews with professionals from important Brazilian companies that have already implemented telework (best practices);
 - select available information sources; and
 - prepare the answers to the expert questionnaire.
- Report preparation, which was designed to:
 - analyze the questionnaire feedback from ILO;
 - review the sources and include updated or additional data;
 - write the draft report and submit to members of Sobratt for their review to obtain final insights;
 - define opportunities for new local studies and researches in the field; and
 - report delivery to ILO for their review.

The main sources for the country-level quantitative data came from the IBGE,³ the Brazilian Institute for Geography and Statistics. Several articles, theses, reports, surveys and segment analyses also comprised the secondary data, totaling more than 40 documents. They are included in the bibliography at the end of the chapter.

INCIDENCE OF TELEWORK

Brazil has no official data regarding the incidence of telework supplied by the Ministry of Labor or another statistical institution. The IBGE demographic census identifies the number of workers that perform their activity at home, but these numbers could not be utilized for the purpose of this chapter since they consider all types of activities performed at home without any drill down that could show data on what we consider telework for the purposes of this study – that is, using ICTs to perform work away from the employer's premises. Some journalists have made this mistake and published estimates of the incidence of telework in Brazil that do not have a scientific or even a logical basis. We reanalyzed the available, very limited, data and chose an alternative methodology for roughly estimating the incidence of telework in the country based on two key assumptions: that teleworkers are employed by organizations, and that they typically perform professional activities in a certain domain of work.

Our calculation strategy is based on the PNAD⁴ (IBGE 2012a) occupied persons census in several occupational activities, such as managers, professionals, intellectuals, technicians and clerks, linked to the IBGE's Country Companies File – CEMPRE⁵ (IBGE 2012b), including employees from public administration, private companies and not for profit organizations in 2012. We adjusted these numbers using the percentage of companies that declare adopting the practice of telework, which we extracted from the SAP⁶ countrywide home office survey among 200 national and multinational companies in 2014.

The calculation method starts with the total number of companies and employees from the CEMPRE report, multiplied by the percentage of companies that adopted home office practices from the SAP survey (36 percent), obtaining the number of potential teleworkers. Also, as we learned from the SAP survey (SAP Consultores Associados 2014) that the companies just offer this possibility to 45 percent of all their employees, a second multiplication by this factor (by 45 percent) is necessary. The formula that we used was as follows: the Total number of employees $\times 0.36 \times 0.45$. Dividing the result by the total number of employees declared by the companies (46 242 713), the percentage of teleworkers officially and legally working in Brazil is estimated to be approximately 16 percent of all employees (this is the percentage of employees who ever telework). We emphasize that this figure is valid only for people who have a formal work contract with a public or private institution. The results of our calculations are shown in Table 5.1.

An additional source of data regarding the incidence of telework is GPTW,⁷ an annual survey in Brazil. It includes a question about the

Table 5.1 Incidence of telework based on PNAD and CEMPRE

Number of occupied people	95 292 086	PNAD 2012 from IBGE
Number of companies	5 195 250	CNEP 2012 from IBGE
Number of employees declared by the companies	46 242 742	CNEP 2012 from IBGE
Number of employees potentially teleworking	16 647 377	36% of total employees based on SAP survey
Number of employees practicing telework	7 491 320	45% of the potential employees based on SAP survey
Estimated telework incidence	16.2%	

Table 5.2 Incidence of telework based on GPTW (in %)

% of employees authorized to practice home office – 20% of time	% of companies in the list
Above 75	9
Between 51 and 75	2
Between 26 and 60	6
Between 11 and 25	14
Between 6 and 10	14
Between 0.1 and 5	21
None	30
Non-respondents	4

practice of telework. Table 5.2 shows the percentage of listed companies' employees that work at least 20 percent of their time as teleworkers. A total of 135 companies are listed in Brazil.

Another survey, conducted by a human resource (HR) consulting company (Ladeia 2013) in 2013 and including 415 companies of different size in the state of São Paulo studied how the home office is practiced. They conclude that:

- the telework adoption rate among companies in the sample is 35 per cent, which is very close to the 36 per cent found by SAP one year later;
- these companies have had a telework option in place for five years or more;
- 50 per cent of the employees consider the practice very motivating;

- the majority of the companies offer telework, up to a limit of 30 per cent of the workweek; and
- the sales, marketing, information technology (IT) and HR departments are the main adopters of telework, mainly in the services industry (70 per cent).

CATHO,⁸ a large Internet-based recruiting company in Brazil, published a survey taken among 26 000 candidates for employment, about home office practice, in which 37 percent declared they teleworked and 23 percent did so once or twice a week. Segmenting the sample by company size, they found greater telework adoption among companies with more than 500 employees (40 percent) and less among smaller companies (34 percent) (Ferreira 2015). Other projections indicate that in Brazil, by 2020, companies will only supply six seats in their premises for every ten employees.

The incidence of telework in Brazil is closely related to the growth in the number of people connected to Internet. According to IBOPE,⁹ 50 percent of the Brazilian population has access to the Internet and this is growing 10 percent annually. IBOPE also estimates that one-third of the workers are already performing their activities away from traditional offices (IBOPE – NIELSEN 2015). According to the Citrix ‘Workplace of the Future’ report (Citrix 2012), organizations will have almost a fifth fewer workspaces by the end of 2020, provide just two-thirds of a desk for each office employee, and completely redesign their workplaces.

DRIVERS OF TELEWORK

A correlation appears to exist between the type of jobs, the organization of work and the intensity of telework. We may consider these aspects as drivers for the adoption of telework. Typically, successful cases of telework adoption are predominantly present in specific areas such as:

- call centers, equipped with robust systems that track in details the agent activity, access remotely corporate information and update databases. Big companies, such as Gol Airlines,¹⁰ Porto Seguro¹¹ and others, report that they have practiced home office with a large portion of their customer service agents for many years;
- creative and design tasks typically measured by the outcomes achieved by journalists, graphic designers, writers, architects and other intellectual-based jobs also appear very often as good examples of telework;

- technical activities such as computer programming also measured by outcomes (lines of code or function points) appeared in our case research;
- mandatory hiring quotas of people with disabilities. In Brazil, the legislation requires that companies with more than 100 employees fulfil a quota of 2–5 percent employees with disabilities (named PCD). A home office policy facilitates the achievement of these quotas, transforming it into a driver;
- workspace limitations at the company premises;
- nonstop services and processes that must be reliable anywhere at any time with the participation of specialized and skilled people;
- field services in utility companies requiring mobile teams to perform maintenance and supervising tasks;
- virtual organizations or those with a small amount of physical space. These companies frequently do not have an office but maintain a significant business; and
- activities accomplished in the field such as product promotions, sales, market research and others that require outside tasks and face-to-face contact with clients and the marketplace. The employees, instead of going back to the office, remotely interact with the company information system, prepare data updates, and report their results.

Additional findings appeared in several research studies that suggest additional drivers of telework:

- According to BSP¹² Telework Study Center (CETEL) research: 94 percent of teleworkers have a formal evaluation focused on outcomes compared with 63 percent of all employees. This suggests that having a results-based evaluation and control process is a driver for adopting telework.
- In the SAP-Consulting study, the research detected that many companies see the home office as a benefit to the employee, instead of valuing the cost reduction and productivity gain. In this case increasing employee benefits is the driver.

Organizational culture has a key role in telework decisions. To increase the probability of success, workers need to spontaneously adopt telework; the home environment has to be compliant; the worker's lifestyle has to be understood; social activities need to be created; training programs and innovation initiatives need to be stimulated; and a systematic implementation must be adopted.

It is also important to remember that the number of startups is growing faster at this time of the country's economic crises. According to Fernando Paiva and Henrique Medeiros (2015; Medeiros 2015), startups are adopting telework in their value chains, thereby increasing their competitive strengths. No official data is available, but some associations that represent these startups are increasing the number of members at rates of 40 percent yearly. The program Startup Rio, maintained by Rio de Janeiro's state government, doubled the number of projects from 2014 to 2015. The WOW¹³ accelerator brings similar growth. Crowdfunding also demonstrates the trend. This ecosystem is becoming mature and is totally related to the number of Internet users. Teleworkers will directly benefit from that development.

EFFECTS OF TELEWORK

Looking to the worldwide scenario, we learn that telework is shaped by several factors and trends that simultaneously limit and leverage its possibilities. These factors, together with telecommunications and IT, are related to the nature of work, the workers, the workplace, the urban mobility and environmental regulation.

The nature of work migrated from agricultural to industrial and, more recently, to services. Currently, the great majority of the workforce could be identified as information workers, transitioning to the status of digital information workers as their functions are performed entirely based on computers that are geographically dispersed in a decentralized and connected structure.

Relocation because of a job offer is not mandatory anymore; time for the family and leisure can substitute for commuting time; and retaining employees is now based on having attractive working conditions such as time and location flexibility, empowerment, less job stress and better company values. In big urban conglomerates, environmental problems force authorities to improve air quality by, for example, limiting transport resources, thereby reducing people's mobility. In summary, many of the jobs now being performed, could, with little or no restructuring, be performed at home at least one or two days a week. Employees are ready for, and even demanding, more responsibility for themselves and more flexibility in their lives.

Working Time (Hours of Work and Work Schedules)

Work performed away from the company's premises started to be regulated by the Brazilian labor law in 1943 because of the workers that used

to perform their activities at home before any ICT resource was used. According to the Brazilian constitution, workers have a normal limit of 44 hours of work per week. Shorter workweeks are possible in the case of a special agreement between companies and trade unions. The maximum workday, including overtime, is ten hours a day with a few specific exceptions. There is no distinction owing to the work site, and the employee has to follow the company's rules regarding the work schedule and punctuality.

With ICT advancements and the adoption of telework practices, a new law (Federal Law no. 12.551/2011) included a paragraph in the previous labor law Article 6 (CLT 2011): the ICT instruments to manage and control work are equivalent to the personal and direct methods of managing and controlling people's work. This paragraph recognizes that employees doing their tasks using ICTs away from the company's premises have exactly the same status, including the possibility of receiving overtime payment. Based on that, we may conclude that no matter whether at the company's premises or any other location such as their own home, the policies and rules are the same. All the start/finish time controls used in their premises could be used or replicated outside those premises using ICTs with the same legal value (Pereira 2015). The advantages and disadvantages of telework would therefore be located in other variables such as mobility, workplace convenience, the work schedule, the work environment and others.

Specific answers to the above questions are still difficult to determine, owing to the complete lack of official statistics or even established best practices in those enterprises that already have formally implemented telework with the ICT support. However, important facts and comments will provide a general picture of the current situation in Brazil regarding telework.

Economic globalization and technological development have led many professionals to remain connected to work at all times, whether in the office or elsewhere. Consequently, working hours for those workers who are not restricted to the workplace can exceed ten hours daily. Even though there is no specific research on this issue, observations made in the labor market, especially in the past 15 years, when new technologies (for example, smartphones, tablets and social networks) appeared, show the stretch of working hours. They allow work in atypical conditions that did not exist before. This trend in which working from home, in hotels, in co-working and in the subway, becomes a working habit is increasingly common, particularly for professionals at technical levels (medium and higher) and in management positions, owing to the globalized world and the use of mobile devices and apps (A Época da Dedicaco Total ao Trabalho 2011).

Excesses of working time are permitted by unlimited connectivity and should be part of the concerns of business leaders. It is recommended to

observe what happens with subordinates, because of the risks of employees extending their workday beyond normal working hours. The possibility of overtime claims is real, even for companies that do not formally use telework. It is well known that employees may spend the whole day at the office, and when they get home they will check their notebook computer or smartphone. In addition, there are companies that do not permit work away from the office, but do not give sufficient time to employees to, for example, respond to all their emails, and consequently they will need to work additional hours at home. A possible strategy to avoid this situation is to block access to the corporate IT network at certain times, as does the SERPRO (Federal Data Processing Service), which blocks access to their network after 9.00 p.m. (Fora dol Expediente 2013).

Owing to the usage of ICTs, many new aspects appeared in the relationship between employees and employers. For example, giving a company smartphone to employees to perform work tasks away from the office could be interpreted as assigning them extra tasks subject to overtime rules, if these devices are used after the normal working hours. In 2012, the TST (High Court of Labor) updated the 'Sumula 428' (TST 2012), which is a rule regarding workers at home in standby mode:

If the worker is being controlled by the employer using ICT devices in order to be called during his resting time, the company has to pay an extra time corresponding to 1/3 of the normal wage per hour. In addition, if the worker stays in touch with his/her boss through ICT devices after hours, they should be compensated with extra time. (Authors' translation into English)

This matter does not have a general interpretation and changes depending on each case. These issues are new in the country and will continue to be discussed before reaching appropriate and detailed regulation. Common practices demonstrate that employees not subjected to rigid worktime controls normally access their emails or do job tasks away from company premises without receiving any extra payment for that work. However, those workers who have rigid work time control and work extra time at the company's premises do receive overtime payments.

According to Sobratt studies and analysis on this issue, the following considerations are important:

- Workers hired under the Brazilian CLT,¹⁴ self-employed workers and professionals practice telework. Teleworkers are subject to the same rules regarding work, occupational health and well-being (Decision 3214/78; Ministry of Labor and Employment 1978a).
- Telework is not outsourcing. Telework is a work format and outsourcing is a business model.

- Each company should establish policies concerning telework and working time, ICT equipment, controls, costs, training, legal compliance and change management.
- Each company should establish a specific regulation for teleworking employees, such as working time, interruptions, delays and presence controls, transport and food vouchers, and other policies that could avoid labor complaints owing to misinterpretations of labor rights as applied to this new work model.
- Several court decisions and collective agreements show some important issues that create jurisprudence and could become a general rule or best practice in the future, such as the one described below signed by the Data Processing Workers Union and data processing enterprises:
 - No overtime, standby hours or additional night fees should be paid to teleworkers for those teleworkers that do not follow an established time and shift schedule to work outside the company premises.
 - No reimbursement should be made regarding communication or equipment expenses.
 - Transportation expenses paid to regular workers should not be extended to teleworkers.
 - Overtime should be paid to teleworkers when the enterprise controls the working hours, defines the shift or work schedule, and it is previously authorized.

According to Home Agent¹⁵ research among their agents, working at home, and not commuting to the company, gave most of the employees four hours of extra time every day. Among the positive consequences of that situation is less absenteeism, more punctuality and better health.

A research study by PwC¹⁶ and FGV¹⁷ (*'O futuro do trabalho: Impactos e desafios para as organizações no Brasil'*; PwC and FGV 2014) of 113 companies employing 1.6 million people shows that among the employee aspirations are alternative work models, promotions based on merit, and better compensation, all of them having the same weight. These employees are in their thirties and forties and have small children. There is no doubt that their choice is to work away from the company premises if allowed. In the same research, 69 percent of the companies wish to adopt flexible time and the home office, but are afraid of legal problems. They are afraid of the consequences on overtime owing to the process of accountability regarding the use of smartphones and emails outside their company premises. Other consequences are redesigning completely the office space to take account of the new situation. Co-working spaces instead of being

assigned individual desks and other architectural changes may push the companies to some serious expenses. Philips in Brazil will invest about US\$27 million in the coming years to implement technology for teleworking. Their employees worldwide have to follow a uniform policy of working from home once a week, no matter the position, including the president (Gasparini 2015; Luders 2015; Pati 2014).

Effects on Individual Job Performance and Organizational Performance

According to the President of the ABRH (the Brazilian Association for Human Resources), Luzia Fröhlich, several companies in the Brazilian state of Santa Catarina started to bet on the home office as a powerful tool to increase performance. The Justice Tribunal of the state started a pilot project similar to the Federal Capital Tribunal's successful experience, achieving a productivity increase. According to Xedes Ribeiro Freitas, a tribunal analyst, from August to December 2014 the pilot participants increased productivity more than expected. A preliminary condition to work from home was to achieve 20 percent higher productivity than on tribunal premises.

Similarly, according to SAP Consulting Research, owing to mobile work, 27 percent of participants reported a better synchronization among company locations and an improvement on internal projects. As 42 percent reported a productivity increase, it is possible to expect that the practice introduced time flexibility to employees without negatively influencing the quality and punctuality of the results. Banco do Brasil¹⁸ studies show similar results, with employees practicing home office increasing their productivity by 15–17 percent.

A company specializing in accounts receivable, Service Cobranças Curitiba (Mello 2011), conducted a study among its teleworkers in 2010. Respondents reported on the influence of telework practice and its main consequences on job and organizational performance. 92 percent of the respondents reported that they were satisfied. Only 8 percent said that they were unhappy with telework.

See Table 5.3 for the impacts reported on organizational performance indicators such as productivity, turnover, response time, negotiation effectiveness and teleworker satisfaction, when compared with regular workers inside the company. There are no doubts about the economic benefits for the company of these positive results.

An organization called AVAPE¹⁹ focuses on people with special needs as teleworkers. These candidates, owing to their difficulties in commuting between home and office, frequently could not compete in the labor market. Offering them the opportunity to work from home, after effective

Table 5.3 *Effect of telework on job performance in Service Cobranças Curitiba*

	Home office/regular
Productivity (number of cases closed)	+18%
Turnover	-58%
Lack of promptness	-50%
Effectiveness of negotiations	+15%
Quality of life	+10%

training, increased their self-esteem, showing them that they are able to perform as well as their colleagues without any physical limitations. Now they have teleworkers with special needs that have acquired the self-confidence to try a better job in other companies. They are convinced about the personal productivity improvement these employees experienced after the telework opportunity.

Algar,²⁰ a large call center company, declared that their teleworker agents improved their productivity because they had better concentration when working from home. They also gained significant knowledge about team management and control. Security issues in respect of information disclosure, which had been raised by their customers, were also improved. Call center employees working from home brought organizational benefits, such as:

- learning how to establish processes to manage home-office teams; creating a new practice that could be extended to other functions; and creating a companywide culture;
- reducing clients' (companies') resistance due to the security of their confidential data and impact on business continuity;
- reducing costs and absenteeism, with higher productivity;
- converting the internal experience regarding telework practices into a new service to be marketed in the future;
- achieving clear gains for the teleworkers, such as ownership of a home computer, cost reductions on clothing, self-development and a better quality of life;
- bringing advantages on the social and environmental side as well, such as new jobs, less commuting thereby reducing pollution, and opportunities for older people or those with special needs.

Home Agents, a company founded in 2011, is a contact center out-sourcer that operates 100 percent with telework. Their home-based model

allows workers to be closer to their families and away from the hectic public transportation and the lack of safety in Brazil. The agents strongly embrace and value this opportunity, which is evident from the absenteeism, turnover and quality-related key performance indicators (KPIs), which are significantly better than the industry standard.

Among the company's strengths are strategic technological partners with high reliability, a consolidated management model and the pioneering experience in the provision of call center services in the Brazilian market.

The employees receive constant training focused on adaptability to the model, customer service quality, and results. There is also constant monitoring of operations and effective integration of the remote agents with business management.

Employees access the company IT system through the Internet, and all of the data is stored in the company's server. Through a structure based on a cloud model and a VPN²¹ (Venezia n.d.) access system, the company avoids the risk of fraudulent customer data capture. This is also achieved through intense training focused on data security.

Through a quality rating system, Home Agent grades its employees on the quality of the service provided according to their readiness, proper use of the operating script, argument, intonation, verbalization and language, attention to information, warmth, responsiveness and empathy, personalization of customer care, product knowledge, transmission of accurate and complete information, system records, and closing script. Through employee ratings, processes are changed and training demands arise. A research study among their agents made in 2014 showed that 98 percent of them said that their quality of life improved, with less stress due to mobility, with less illnesses and a feeling of being closer to the family. They also report up to four hours a day saved on commuting, and a significant percentage went back to school.

Owing to a change in legislation, Seguradora Lider,²² the insurance company responsible for the DPVAT²³ consortium, was forced to offer its customers a 24 hours a day, seven days a week (24/7) customer service. However, the company decided against opening the call center overnight given how expensive an operation it would become owing to the cost of maintaining the entire building – incurring infrastructure, safety, and maintenance costs – for 24 hours a day. Therefore, the company searched for an outsourcer to handle the night shift operation for them.

In order to comply with both the law and Seguradora Lider DPVAT's expectations, Home Agent proposed a night shift operation using their home-based model, which would benefit not only the customer but also the agents involved in the night operations. With that, Seguradora Lider DPVAT was able to comply with the law, and through the home-based

model, Home Agent was able to achieve better KPIs (2.16 percent average absenteeism, 0.76 percent average turnover and 92 percent average quality grades) against the market standard on its night shift operation dedicated to Seguradora Lider DPVAT.

Home Agent generated a positive social impact particularly because the WAHA,²⁴ an important part of their stakeholders (who were relating to their customers, even though they were outsourcers), gained a better quality of life by saving commuting time, avoiding unsafe situations at night, and remaining closer to their families

Tetra, a pilot project developed at the Brazilian Federal Data Processing Company, SERPRO,²⁵ aimed to improve the quality of life of the employees and their productivity, and to reduce company costs. During six months, the project evaluated employees' productivity and the logistics expenses after one year of home office practices. Indicators were collected four times: once before starting (the baseline) and three times after implementation. The following indicators were measured:

- productivity indicator, measured based on target achievement (function points for example);
- logistic resources saving indicator (employees at home or in satellite locations);
- a specific quality of life indicator;
- a professional compliance indicator (team relationship in the new practice).

The positive results of the project were valued at US\$101 165 and the costs were US\$39 500, meaning that the net benefits generated were around US\$60 000.

The examples show a heavy incidence of call and contact centers in the processes of telemarketing, customer loyalty and credit negotiations, among others. The main reason is top management's strategy to search for new work alternatives of a more flexible work environment with a win-win result for the employees and the companies, without any prejudice to the customer.

Research conducted by Dom Cabral Foundation²⁶ (Logística Supply Chain e Infraestrutura 2014) estimated at US\$7 billion the losses due to mobility problems in the city of São Paulo, which affects companies' productivity.

Ticket,²⁷ a company in São Paulo, substituted 24 offices in Brazil and saved US\$972 223 million in rentals and maintenance costs each year (Bazolli 2015) by adopting telework. According to the managers in the company (Mello 2011), the main motivations to adopt teleworking were:

- institutional policies to include special needs people and follow sustainability and corporate social responsibility (CSR) practices. The result is compliance with the regulations (quotas), thus avoiding penalties. This could be interpreted as a cost reduction and a good image enabler among customers and in the community and society;
- financial needs and aiming to avoid operational costs related to absenteeism, turnover and office space requirements. Home office adopters declared that telework avoids office space expansion and sometimes even reduced it after implementation. Happy employees do not quit so easily and working at home lowers absenteeism, both bringing cost reductions (Home Agent research);
- technology advancement and availability permitted them to support call and contact centers' complex systems remotely (Algar and Home Agent); and
- social and economic drivers, searching for more productivity, less carbon emissions and a better quality of life for the employees.

According to the workers (Mello 2011), their main motivations are:

- the financial advantages owing to reduced expenditures on clothing, accessories and commuting to work at the companies' premises;
- the reduced risks of acquiring diseases and suffering accidents. (Home Agent research detected employee and family health improvement);
- the working time and site flexibility; and
- a better overall quality of life (saving four hours a day by not having to commute).

Regus, a global office rental company, sponsored a survey in partnership with MindMetre Research about professionals' commuting expenditures worldwide. Brazil, South Africa, France, India and Mexico are the most expensive countries in a list of more than 100 countries. For example, Brazilian executives spend 6 per cent of their annual income on transportation between their homes and offices. The global average is 5 per cent, almost twice the percentage five years ago. Japan has the lowest percentage. They surveyed 44 000 executives globally, who reported their expenses on public transport, car maintenance, fuel, parking and time lost due to commuting. The company's general manager comments about the importance of companies offering more flexibility to workers, increasing their motivation, company attraction and, eventually, reducing costs (Arcoverde 2015). More than 60 per cent of the managers in

Brazil, in five cities, reported that they are already managing teleworkers, and 75 percent of them believe that this work model is more productive (Cavalcanti 2015).

Effects on ‘Work–Life Balance’, Including Work–Family Reconciliation/Conflict

Employee flexibility as regards their work schedules is still very limited in medium- and low-level functions in Brazil. The majority of them have to follow a fixed time schedule, mainly those that work in public and customer services, or follow normal office hours. Brazilian labor legislation is very rigid regarding work and rest hours, allowing little flexibility for negotiations between companies and workers. However, when employees work based on objectives or projects, this type of work schedule flexibility is common. The standard is a negotiation between the employee and the manager before taking time off during the workday. Companies need to be careful of the legal consequences of these acts. For example, accidents that occurred during these hours could be considered as occupational and companies could be liable for them.

The labor relationship’s transformation, a consequence of a global competitive economy and the information technology advancement, created the time and space flexibility and new methods of work. Telework is the clearest evidence of the labor relationship changes, signaling a new relationship between human beings regarding work and organizations. The expectations of productivity gains, cost reduction, better processes and improved life quality together can behave as pillars for true competitive advantage. If on one hand, the research shows that companies get many benefits for their margins, on the other hand employees got better life quality, time flexibility, eliminating commuting time and mainly increased their satisfaction. (Perez 2010)

Work and Home are still considered culturally different arenas, each of them carrying its own values and practices. If on one hand, home is organized in a very subjective manner incorporating love and affectivity principles, work on the other is rationally organized according to instrumental procedures where efficiency and effectiveness are the final objectives. Merging both scenarios into a single environment means renegotiating social relationships and the time and space shared among them. This means not invading work space with life activities and vice versa not invading life space with work activities, as mentioned by one of the teleworkers interviewed. (Silva et al. n.d., p. 13)

The teleworker manages the technological resources in order to help him or her organize their professional and home activities. This includes a review of the domestic space and family relationships (Hamilton n.d.). The majority of them have a specific space in the house where they practice

home office, and they keep the family out of that space during ‘office hours’. A few teleworkers mix the spaces and times.

From a socio-psychological perspective, it seems that social relationships suffer because of the reduced social contact of teleworkers with their colleagues and supervisors (Daantje Derks 2010). Not seeing the manager, or not being seen by the manager and other top executives, worries the employee for the reason that, if nobody sees you, then you will not be remembered. It seems that the traditional work conception is prevalent when control comes together with recognition. Telework could be transformed into a change agent by simultaneously promoting the corresponding changes in the social and cultural fields. If not, it will be limited to a simple site transfer, including the family in this process without its agreement.

Sometimes employees do not use their company mobile devices during rest time or access their work mailbox only during office hours. Some do not publish their private phone numbers or private emails. Also, some do not interrupt their work to help with routine home problems, and even create private spaces with closed doors or complete isolation from the family or neighbors (Marchetti 2015).

Whether the overall consequences of telework for work–life balance are positive or negative depends upon the worker, what type of telework is involved, the location and under what type of contract it is performed. Autonomous professionals have their autonomy reinforced by working from home, while clerical employees regulated by control measures can find their autonomy reduced still further compared with full-time permanent employees. (US Department of Transportation 1992)

Triad PS of São Paulo, a research company, undertook a survey of 4100 professionals, which showed that 62 percent of them admit postponing work activities to surf the Internet. The study found that 25 percent of respondents spend up to an hour at work dealing with personal matters on the Web. It is understood that these people will have to accomplish their tasks; however, the problem is that they are also sacrificing moments of physical activity, reading and taking care of their health (Viramos Escravos da Tecnologia 2013).

In the Justice Tribunal of the state of Santa Catarina, during the teleworking pilot project implementation, lawyer Marcello Müller Teive, age 36, volunteered to participate because of his supervisor’s arguments that he would be able to spend more time with his young daughter. The lawyer reported he is happier working at home, has more time flexibility to tend to family needs, and at the same time is more productive without any additional effort.

To Tatiana da Silva Pioner, age 37, also a project participant, many

advantages occurred for her, especially no more heavy commuting traffic. She used to spend at least two hours a day in traffic jams. She commented that anxiety and depression had been affecting her, but now with telework her health is much better.

Evidence for increased or decreased job satisfaction, quality of life, promotion potential and supervisory support for teleworkers is ambiguous, and studies of work from home and family relationships have found that these linkages are important but not easy to analyze, and are in need of further study. The international literature suggests that teleworkers from government agencies generally report greater satisfaction and productivity gains than those of private employers. No significant correlation has been found between gender, age or educational level and telecommuting satisfaction or productivity, and their studies showed that the evaluation system and level of supervisory support (emotional and technical, including equipment, software, and so on) were also important to satisfaction (US Department of Transportation 1992).

Effects on Occupational Health and Well-Being

Telework may improve the overall health of the worker and result in reduced medical costs. Studies of automobile drivers in the US have shown significant relationships between exposure to traffic congestion and a variety of adverse physiological reactions (US Department of Transportation 1992). These early findings are also relevant for metropolitan areas outside the United States, such as São Paulo in Brazil. It is one of the most populous urban concentrations in the world, surpassing 20 million inhabitants. The motor vehicles fleets – which include advanced aged and a large portion of illegal vehicles (without an annual license) – exceed 5 million units, bringing disastrous consequences for urban mobility and the environment. The sprawl of the city, the historically disproportionate investment in individual transport due to the motor vehicle culture, and easier financing for the poorer classes to acquire the family car, have resulted in massive traffic jams in recent decades. With the drastic reduction in the average speed and flow of traffic during weekdays, the consumption of fuel increased, contributing to global climate change and increased atmospheric contamination, aggravated by local weather and geographical conditions that do not favor the dilution of pollutants.

In addition to the cardio-respiratory problems associated with atmospheric pollution, the average travel time from home to work in São Paulo is currently over 100 minutes (1 hour and 40 minutes) (Green and Sanchez 2013). However, this time may be significantly longer in a portion of the trips because of frequent roadworks, rain and traffic accidents. Sedentary

lifestyle, exacerbated stress and sleep disorders are some examples of the possible consequences of this state of affairs.

The information published by the agencies responsible for the management of air quality in São Paulo and the Clean Air Institute reporting on air quality in Latin America (Green and Sanchez 2013) indicate routine violations of air quality standards and annual average concentrations of pollutants that exceed, by far, the standards recommended by the World Health Organization (WHO). Fine particulate matter (PM_{2.5}) and ozone (O₃) are the two main pollutants of concern to environmental and public health authorities, each in their own way.

Toxicological studies of recognized scientific value attribute the occurrence of thousands of annual premature deaths to high concentrations of PM_{2.5} (Watts 2015). In the Metropolitan Area of São Paulo 7000 people die each year from cardio-respiratory problems caused by atmospheric pollution (Sobratt 2013). This higher incidence of respiratory diseases, which are reflected in higher social costs, could be reduced by the implementation of comprehensive sustainable transport and mobility policies, many of them already under development in São Paulo, while others still await a better understanding from society and decision makers for their timely and necessary development (Green and Sanchez 2013).

The cost of traffic jams, estimated by Professor Andre Franco Montoro Filho from Fundação Getulio Vargas (Montoro 2013), is R\$62.5 billion per year. The productive time lost in the Greater São Paulo Area is two hours a day or 12.5 percent of the total workday. Each worker pays an invisible toll of R\$20 per day no matter if driving a private car alone or using public transportation. This scenario is even worse when we remember that private cars, taxis and almost 15 000 buses are blocked throughout the city at any time of the day. The low speed exponentially increases the pollutant emissions and CO₂ per kilometer, obliging the population to breathe in the pollutants for several hours.

Telework and remote activities will facilitate solutions if this work model is expanded throughout the country, as is already happening in more advanced cities in the developed countries. Thirty years ago, typing machines and table calculators were still in the offices; 20 years ago we started using emails and ten years ago no online videos or social networks existed; and all these functionalities are now in smartphones and have been for the past five years. The new wave of commercially available, simple to operate tools makes possible agile personal and professional interactions, expenditure reductions and low environmental impacts, when compared with face-to-face activities that require dedicated space, operational infrastructure and long-distance commuting.

Eventually, telework's benefits could expand far beyond company

frontiers. In Greater São Paulo, there are 7 million jobs, which can be translated into 14 million people commuting every day. Thirty percent of these workers drive cars, which means 4.2 million drivers commuting per day. Adopting the standards from foreign experiences such as in the US state of North Carolina, where the target is a 20 percent reduction of vehicles with alternative transportation, the reduction in São Paulo should be close to 840 000 commuters per day. Considering that telework could contribute 50 percent of this reduction, we have 420 000 fewer private cars per day, which on average would save 3.36 million kilometers or 336 000 liters of fuel per workday. In one year, this amounts to 84 million liters and 168 000 tons of CO₂, 42 tons of NO_x and 67 tons of hydrocarbons (HCs).

Even those less sensitive to environmental issues would adopt telework for reasons related to time spent in traffic jams. Cities such as São Paulo and Rio de Janeiro consume, on average, two hours of the employees' day for commuting activities. This is a loss of revenue to the workers owing to reduced mobility. As economic growth increases, more cars go onto the streets and it takes more time to commute. This is what the study carried out by Carlos Frickman Young and Elisa Possas shows us, which they estimate at between 1.9 percent and 3.8 percent of the Rio de Janeiro state GDP (Frickman Young et al. 2013).

Teleworkers in Brazil are covered by the same Work Safety and Health regulations as their colleagues at the companies' premises. Factors such as physical space and mental health examinations and follow-ups should be followed exactly to the same standards for both work models. However, companies should also look to prevention measures and working conditions regarding the functions (seated jobs, call center agents and drivers, for example) and the supplied equipment, such as tables, headsets, protection garments and accessories. Their use and effectiveness are the companies' responsibility. Medical inspections and technical evaluations from the Health and Safety area are mandatory when adopting home office (Mello 2011), and need to follow the regulation Portaria MTE – Decision 3214/78 (Ministry of Labor and Employment 1978b) that protect the workers' physical conditions.

To trigger legal and HR actions, employees must immediately report incidents, such as sickness or accidents. When working from home, sometimes the employee could be asked to continue working, which is completely inappropriate and should be prohibited. Access to company systems in this case should be blocked to mitigate company risk and demonstrate that worker's health comes first. The fact that an employee is working from home does not allow the company to assume that a minor illness or malaise is not a reason to stop working. The company should even block the employee's access to the ICT system to save the employee's

health and also not take the risk of a legal punishment (Wolnei Tadeu Pereira 2015).

In a study with development agents, in a bank in the northeast of Brazil, the social and psychological impacts of telework were analyzed (Mello 2011). The objectives were to identify factors that could influence the life of teleworkers positively or negatively. The agents, who, because of their job profile, work far from their families, feel well integrated with their work colleagues but also feel isolated from their families, bringing negative consequences to the relationships with their spouses and children. This emotional condition decreased their job performance.

A case reported by a sales manager working for three years for a big cosmetics company reveals that to avoid health problems, the professional must respect work schedules, interruptions and lunch times. The person was incapable of disconnecting from work, and continued working for many hours without eating meals because preparing them would use up productive time. She also missed family events and asked her daughter to help her. The work was the management of sales in two cities, Jaraguá and Taipas in the state of São Paulo. At home, she prepared the sales campaigns and sales reports, performed back-office tasks and fulfilled orders for delivery to the sales people. She handled around 40 boxes with 20 kilograms of materials each month. This work would take 16 hours of non-stop typing. She developed a hernia disease in the back, leading to surgery. After nine months on sick leave, she came back to work with many restrictions due to her illness. The orders data entry department then recommended a transfer to another job. After 15 days in the new job, she was fired, and the case is currently being litigated (Consumidor Moderno 2015).

According to Home Agent, an innovative call center company, their agents reported significant improvements based on surveys among them (Boucinhas 2015). Several inquiries show a consistent demonstration of better satisfaction, in which 98 percent of the agents report a better quality of life through working at home, including the family's quality of life. The free time they gained working from home was used for themselves and their families. Going deeper into the reasons, 93 percent of them declared the time saved on commuting as an advantage; 91 percent declared more time for the family as an advantage; 77 percent declared that working when having minor illnesses is also an advantage; 50 percent declared having more time to study an advantage; and, finally, 48 percent declared an improvement in caring for their health.

Regarding the disadvantages of working from home, 63 percent miss their colleagues and have the feeling of being alone due to the distance; 50 percent complain of interference around their homes; and 29 percent

miss the need to dress up to go to work. Respondents clearly state the ambiguity of telework in the interviews. As one interviewee explained: 'in my opinion, among the positive facts is the avoidance of daily crowded commuting, staying hours in unconformable transport, followed by a long walk, permits more time with my family and more time available for rest time'. Another interviewee reported: 'when working at home, we need to be careful to maintain our external contacts and constantly be aware of the external world'.

An additional point to be raised concerns work-related accidents in the home. When a teleworker performs his or her activities at home, some new situations could occur. For example, if a person working in a home office has an accident using the stove could it be considered a work accident? The answer depends on the job. If the person is a chef, then yes. If the person is a clerk and is using the stove to prepare his or her lunch, then it is not. This and other domestic problems are still being studied and organized to better prepare companies and teleworkers for this new reality.

POLICY RESPONSES REGARDING TELEWORK

Telework can lead to a reduction in the number of commuting vehicles and thus contribute to the attainment of cleaner air and congestion mitigation. Therefore, many communities view it as a transportation demand management measure and a more sustainable work system. In some countries, federal or local governments provide assistance for establishing a telework strategy and its implementation. At the Brazilian federal government level, many departments already practice telework, thereby creating a flexible work model benefiting both employees and productivity.

Responses at National and Sectorial Level

The Commission of Participative Legislation (CLP), held on 7 August 2013, was a seminar to discuss telework in Brazil, sponsored by the Federal Chamber of Deputies. The issue in question was from the suggestion No. 74, 2013, authored by the Union of Public Servants of the Federal Legislature and the Court of Audit (Sindilegis). Authorities and theme scholars attended the event and contributed to the debates. Some data show a reduction in the number of Federal Audit Court of Brazil (TCU) processes with the use of teleworking. The seminar also was attended by the Director General of the Chamber of Deputies who was open to considering the implementation of teleworking in that body. The speakers explained the benefits to the environment and urban mobility that can

arise from the use of telework, in addition to enumerating a number of countries already using it successfully. The seminar was an opportunity to show to Brazilian society and the Brazilian Congress the benefits of telework, as well as technological advances that allow the use of this new working method, which is already used by public authorities and by private companies. These advantages of telework will inspire all those who seek ways to optimize the working conditions of civil servants and other workers in Brazil.

The municipality of Fortaleza in the state of Ceará in 2000 created a program to stimulate and support working from home (Programa de Prática Profissional em Informática e do PINC – Programa de Incentivo aos Negócios – PROINFOR). Its purpose was the creation of telework sites in regions to be developed, with facilities to teach IT, devices to be shared among users, and telecommunications resources.

Several law projects have already been approved or are still under discussion in the Brazilian Congress:

- Federal Law no. 12.551/2011 – approved. This law is an update to the main Brazilian labor law, the Consolidation of Labor Laws (in Portuguese, the *Consolidação das Leis do Trabalho*, CLT), which governs labor relations in Brazil. This law establishes the following rule: ‘There are no differences among work performed in the company premises, at home or at distance, since an employment relationship exists’. ‘The ICT means for command, control and supervision are comparable, in legal terms, to the face-to-face means of command, control and supervision of others’ work.’
- Law Project 4.793/2012 – approved – amendment to the Labor Law, adding to article 457-B: ‘The teleworker’s compensation rules will be agreed in employment contracts, conventions or collective employment agreements’. The stated reasons for this law project are that:
 - telework has grown exponentially in recent decades;
 - many of these workers are self-employed, which is regulated by its own legislation; however, many others perform telework under regular (CLT) contracts; also, there is a regular practice of working from home using ICT mobile technology that goes beyond normal working hours;
 - although Federal Law no. 12.551/2011 updated CLT article 6 comparing teleworkers to regular workers, this has increased the number of cases in the justice system negotiating overtime payments and other issues. The lack of these details in the existing law needs to be remedied with additional regulations.

- Law Project 274/2013 – proposed amendment to the Labor Law. For similar reasons to the above, this project also intends to update the Labor Law focusing on telework, with some detailed regulations, to reduce the amount of litigation and conflicts in the jurisprudence. The project suggests new articles to bring a better balance between employees' and employers' rights. It aims to propose a regulation for a special work model owing to the differences that distinguish telework from regular work at employers' premises, while keeping all other dispositions that are common to both models. Telework should not be used to avoid compliance with workers' rights. Employers' controls also need to be more regulated to avoid problems of interpretation whereby a simple email could be considered as a proof of overtime work. The teleworking environment is in constant mutation, and Brazil needs to be prepared for that development to avoid obsolescence. In addition, the role of unions and workers' organizations is not clearly established.
- Resolution SMA (Environment Secretary of the State of São Paulo) No. 24, April 2013. This resolution provides for the creation of a working group to study mobility management strategies by means of telework and tele activities in São Paulo. The reasons behind this resolution include being compliant with other guidelines and resolutions already approved, such as:
 - Guidelines of the State Policy on Climate Change, SPCC (State Law No. 13798 of 9 November 2009, and Decree No. 55947 of 24 June 2010), in particular the provisions on sustainable transport;
 - Vehicle Pollution Control Plan, PCPV – CONAMA (National Council of Environment) Resolutions 418/2009 and 426/2010 CONAMA (National Council for the Environment);
 - Federal Law No. 12.551, of 15 December 2011 (see discussion at the beginning of this list).

These are proposals for a strategy to encourage telecommuting in Sao Paulo State, drawn up by Sobratt (2013):²⁸

- publication of a consolidated version of the Report of the Telecommuting and Teleactivities (White Paper on telecommuting) after submission for public consultation;
- the formal position by SMA in favor of telework and the first steps towards a promotional program of best practices;
- the development and implementation of a roadmap for telework and teleactivities in companies and the monitoring of emissions and consumption to be avoided; and
- the establishment of criteria to certify carbon credits as a result

of consistent telecommuting programs in business, in accordance with state laws for air quality.

- Law Project 326/2013 – proposed amendment to the Labor Law. This law project defines and establishes rules for telework. It focuses on the differences between third-party work and contracted workers. It prohibits contracting with foreign employees without previous authorization from the Labor Ministry. It establishes that the teleworker is responsible for the risks at the home workplace and exempts the employer from the responsibility for life and accident insurance for such workplaces. It also requires employers to make inspection visits to the home workplace of teleworkers.

Telework in the tribunals

Several tribunals across the country have authorized their public servants to work outside their premises. The selected examples that pioneered this practice had a strong influence on the establishment of public policies and legislation on the matter.

According to the magazine *Revista Direito e Liberdade* (Realidade do Teletrabalho no Brasil e nos Tribunais Brasileiros 2010) the instruction 11/2003 initiated this work model in the Accounts Tribunal for the State of Rio Grande do Sul. Among the reasons for it are to increase productivity and reduce energy consumption and the use of available equipment. The Federal Accounts Tribunal in 2009 defined internal rules for telework, leaving to management the decision on the categories of jobs allowed to telework. It should prioritize the convenience for the department and not be understood as an employee right. Functions with less interaction among people and greater individual effort were the top candidates for telework.

The Regional Work Tribunal for the state of Minas Gerais (Estrada 2010) was the first in the country to create jurisprudence about telework in 2009. Their decision recognizes work performed at home as being equal to the same work performed on the organization's premises, and subject to the same labor legislation when supported by telecommunication and information technology, no matter the distance from the office.

- Public Hearing for the Law Project 2723/2015 on 6 October 2015, author: Dep. Daniel Vilela – PMDB/GO. This amends section 3 of article 19 of Law No. 8.112, which regulates the practice of the 'home office' in all federal departments, foundations, and so on regarding the public servants' practices of telework. Several departments including public universities and Sobratt participated in this Public Service Labor Commission at the Chamber of Deputies. The purpose of the law project and the hearing, according to the author,

is the redesign of traditional work models, maintaining at a distance the same interaction among employer and employees based on usage of IT tools. The deputy also states that one of the advantages is the workers' comfort working from home, in many cases reducing interference, increasing concentration, saving time, and reducing stress caused by congested urban transit.

After the law project's approval, many departments that already practice telework, often not using this terminology, will follow the same rules and universalize the practice. Sobratt knows of excellent examples of telework adoption in this area such as:

- BNB, Northeast Bank of Brazil;
 - METRO, São Paulo Metro Company;
 - CONAB, National Food Supply Company;
 - ANVISA, Sanitary Agency Internal Revenue System;
 - EMBRAPA, Brazilian Agriculture Research Company Banco do Brasil;
 - SERPRO, Federal Data Processing Company; and
 - Justice Tribunals in São Paulo and Rio de Janeiro.
- The important new law 13.467, dated 13 July 2017, in force since 13 November 2017, brought the Labor Reform, which substantially altered labor relations in Brazil. It incorporates all the previous amendments and new law projects regarding telework. In this way, teleworking in Law 13.467 was considered in Articles 75-A, 75-B, 75-C, 75-D and 75-E of the CLT,²⁹ with changes in the existing articles and the inclusion of new items as additions to the original text. In summary, Law 13.467 makes the following changes to the existing Brazilian labour law:
 - Revised article 4 of the CLT on working time, creating new concepts. In summary, article 4 of the CLT specified that the time in which the employee is at the company's headquarters, but carrying out particular activities such as study, leisure, rest, social relations and religious practices, or when changing uniforms (when there is no obligation for employees to do so in the company), cannot be considered to be working time. Previously, there was disagreement and understanding that these periods could be counted as working time.
 - Eliminated control of the daily work schedule for those employees who are active in teleworking; specifically, it introduced an exemption to control of the daily work schedule for teleworkers. However, there is a disagreement in the doctrine on the matter, since the ICT means allow control of the work schedule in various ways, and in some activities, for example, call centers, there

- are provisions in regulatory norms on time limits and breaks that must be observed.
- Established the requirement that there be an individual employment contract or contractual addendum stating in writing the exercise of telecommuting, according to article 75-C from the CLT. This legal determination is important because, as a rule, the employment contract does not need to be written.
 - Defined the specific costs that should be included in the employment contract. Contracts may be established, under a legal determination for the acquisition, maintenance or supply of technological equipment and the infrastructure necessary for the provision of remote services, as well as the reimbursement of expenses incurred by the employee, such as use of the Internet and electricity.
 - Regulated the conditions regarding the reversibility of telework. According to article 75-C, section 2 of the CLT, the employer can unilaterally determine a change from the teleworking scheme to face-to-face (work in the office), with a transition period of 15 days, requiring a contractual amendment to be made regarding the change. There may also be a change from the face-to-face (work in the office) regime to teleworking through an agreement between the parties and registration in a contractual addendum.
 - Established an obligation to provide the teleworker with explicit and overt guidance regarding health and safety standards. However, as the CLT stipulates as a general rule that it is an obligation of the employer to comply with and enforce general standards of health and safety at work, it is recommended that employers require that employees comply with these standards. There is a discussion about the difficulties in relation to this obligation of the employer when teleworking, since it could not have access to the residence of the worker, without express authorization, to prove that they are following these rules.
 - States that telework can be negotiated collectively, including internal regulation, telecommuting conditions, control of the working day, monitoring, standby time, and so on. As a rule, the work schedule can be established in collective bargaining, since Article 611-A, item VIII of the CLT establishes that collective bargaining prevails over the law in the matter of telework.

The legal security provided by the new law will give impetus to telework adoption and the promotion of collective bargaining will

help its practice, according to its possibility and necessity in each sector or area of implementation.

- Establishes a bill to create, in the city of São Paulo, the Municipal Telework Incentive Policy, authored by the councilman Police Neto (PSD), November 2018. The proposal provides for tax incentives for companies that adopt distance working arrangements, whether at home (office) or in shared spaces (co-working). The objective of this municipal policy is to stimulate teleworking in public and private organizations, contributing to a reduction in commuting, thus reducing traffic congestion and also reducing the emission of pollutants. Citizens would gain in quality of life: greater flexibility to organize their own schedules and increase productivity, and eliminating the time spent in traffic congestion. The program also favors setting up companies outside the expanded city center, and this incentive should create more employment opportunities for individuals with disabilities and reduced mobility. The expansion of telecommuting favors the city as a whole. If fewer people have to move, in addition to the environmental gain, the city can also save money on bus trips, as the value of such tickets totals over R\$3 billion in subsidies per year.

Responses at Company/Enterprise Level

Several companies were early adopters of telework, based on their pilot experiences and the advice of experts. They established internal policies that help them to have a common background and procedures inside their companies; these enterprise-level policies are presented in this section. Some analysis and conclusions from these experiences are also reported when available. It is important to keep in mind that the company examples reviewed in this section should not be interpreted as a typical examples or as best practices.

Compuware³⁰

Compuware is a global software company, now named Dynatrace, a supplier of computer applications monitoring products to corporations worldwide. This company has approximately 5700 customers worldwide, from small startups to the largest enterprises. More than 800 experts in the company work worldwide as developers and field engineers. This policy was established for the Brazilian branch. Interviewing the company president, he made it clear that, being a global digital transformation company, the main goals of the project were increased productivity and a better quality of life for employees. Cost reduction was an additional benefit, but not the main objective.³¹

Overall objective of the policy The objective is to provide guidelines for managers and employees about the conditions and requirements for the practice of telework in the company.

Telework objectives

- Improve employees' productivity.
- Improve employees' quality of life and create opportunities to reduce expenses associated with their commuting to workplace activity.
- Reduce expenses on transportation, food and materials.
- Improve retention of current employees.
- Reduce office space.
- Contribute to urban mobility and the environment.

Telework assumptions

- Telework implementation is a pilot project to be used as a learning tool to expand this practice, which is being continuously evaluated and reviewed.
- Functions eligible for teleworking are defined by the company, based on HR and management recommendation after top management approval.
- The option to adopt telework is made by each employee with the formal approval of the respective managers.
- The space where the activity takes place is subject to compliance with standards, especially work safety and health requirements.
- The time schedule and the length of the workday will remain the same. Due to remote activities, employees have time flexibility regarding beginning and ending work, their lunch break and rest intervals at their convenience. Those employees assigned to customers must follow the customers' schedule.
- Telework can be practiced once a week or more, based on the nature of their function, either at home or at any alternative office.
- To preserve integration and connections among employees, all collaborators must work at their offices at least once a week.
- Activities subject to telework will be controlled regarding outcomes, time schedule and indicators negotiated between workers and management and monitored by the managers.
- Telework activities will be continuously monitored and may require employees' presence in face-to-face or virtual meetings in a location assigned by Compuware.
- An addendum to the labor agreement will be developed for the func-

tions subject to the practice, containing these and other conditions eventually required.

- Special procedures and norms will define the technology used, information security and other aspects related to IT.
- All of the costs related to devices and communications to support telework will be the responsibility of Compuware, which will establish employees' limitations for their use.

Results

- For the company
 - Savings on office floor space, considering rental, taxes and maintenance of US\$147 222 annually.
 - Employees' reallocation to a smaller space, eliminating 'idle' space, improved the company's internal climate.
 - Employees' perception is that their productivity improved.
- For the employees
 - An important commuting time reduction of two hours a day on average, adding up to 180 hours per year, which can be translated into one month of working time.
 - This time saved was expended as follows: 32 percent with family, 29 percent exercising, 20 percent on leisure, 17 percent studying and 3 percent on domestic tasks.
 - This reduction also eliminated the consequent stress of commuting to work and improved the quality of life for 80 percent of the employees.
 - A reduction in private vehicle costs for the large majority of participants, by a total of US\$625 yearly on average.
- For the environment
 - The community had a reduction of 4800 kilograms of CO₂ in the atmosphere owing to elimination of 5000 commuting trips, saving 60 000 liters of fuel.
- Final recommendations
 - An expansion of the telework program in terms of the number of days, functions and participants.
 - Areas not included in the telework pilot project, such as finance, were required to start immediately to improve the bad internal climate due to the feelings of exclusion of these employees.

Some companies have developed agreements with labor unions and professional associations to govern telework and have a clear relationship with their employees. In 2013 Compuware provided a good example by

collaborating with SINPD,³² a union that represents IT workers in the state of São Paulo, signing the first Brazilian Collective Agreement for the period of 2013–14.

Fibria³³

A Brazilian company with a strong presence in the global forest products market, Fibria is the largest global producer of eucalyptus pulp. The company has an annual production capacity of 5.3 million tons, with mills located in Três Lagoas (Mato Grosso do Sul), Aracruz (Espírito Santo), Jacareí (São Paulo), besides Veracel, a mill in Eunápolis (Bahia), in joint venture with Stora Enso. In partnership with Cenibra, it operates Portocel, in Aracruz, the only Brazilian port specializing in pulp shipments.

With its operations based entirely on renewable forest plantations, in the states of São Paulo, Minas Gerais, Rio de Janeiro, Espírito Santo, Mato Grosso do Sul and Bahia, Fibria has a total forest base covering 969 000 hectares, of which 343 000 hectares are native forests that have been set aside for environmental conservation.

In October 2012, the company entered into a strategic alliance with the Canadian company Ensyn Technologies to invest in renewable fuels derived from wood and biomass.

Objectives of telework

- Contribute to the cultural change intended to boost the integration and synergy across the entire company.
- Improve quality of life and generate opportunities to reduce employees' expenses related to commuting to work.
- Improve employee recruitment and retention.
- Promote better productivity.
- Redesign the organization of office space, aiming at a reduction of floor space.
- Contribute to urban mobility conditions and environmental improvement.

Guidelines

- The functions eligible to telework are a company decision based on HR and management recommendation, approved by top management and following feasibility criteria for telework functions.
- Opting to work away from the company premises is a voluntary employee decision approved by the direct manager.
- Telework will be practiced in two ways:

- home office, working from home five days a week, visiting the office on scheduled days in accordance with management.
- flexible work, working from home twice a week and three days in the company's central office.
- All the current employee benefits, such as transportation tickets and food, will be kept exactly as offered in the face-to-face model.
- The employees' performance evaluation must follow the same procedures as the current system, just being adapted to the particular case of the home office or flexible work.
- Target and time schedules and result indicators previously agreed among leadership according to the company practice will support activities subject to telework.
- The communication between leaders and team members will follow the same face-to-face practices, considering the specificities of each function, including instant messaging and video. An additional tool will be developed to map employees' location, ensuring that the communication process reaches employees in the company premises when teleworking.
- Office space distribution will be assigned:
 - according to the needs of flexible work teams, without fixed places;
 - to permit, infrequently, the presence of home office adopters in the central office; and
 - according to the needs of common spaces for meetings and relaxation.
- The condition of the worksite where the home office or the flexible work will be performed will be audited and people will be trained on ergonomics, safety and occupational health rules.
- The same workday duration will be kept in accordance with national legislation.
- The control of working hours will be kept the same as in the current policy.
- The site for flexible work is agreed between the employee and management.
- To preserve the integration and the links among the team, all the teleworkers will work in the company's central office once a week on the same day.
- Telework activities will be continuously monitored and employees could be asked to participate in face-to-face meetings in a location defined by the company.
- A contract amendment will be developed for the functions eligible

for telework, containing these and other conditions required for the participants of this work model.

- All the IT tools for work needs – notebook computers, smartphones, headsets and so on – will be supplied by Fibria. The company will reimburse the communication costs.

Cisco

The Cisco telework program has evolved over the years from a convergence of top-down company practices with bottom-up changes in employee expectations. The company operates in 97 countries and they have a double role, both as telework adopters and as suppliers of tools for teleworking.

Cisco Systems began a formalized teleworking program for managers and employees in 1993, becoming one of the first companies in Silicon Valley to do so.

Objectives of the program

- Allow workers greater flexibility in the scheduling of their work hours by, in many cases, eliminating the need for a daily commute.
- Empowers employees to work full speed at a reduced time and cost to both the employee and the company.
- Promotes general improvement in the quality of life for its workers.
- Save space, save the environment, save money and improve head-count productivity.
- Establishes a workplace as business partner and decision-making facilitator for the entire organization.

Guidelines

- A single group will lead policies and support business decisions, including policies regarding the office environment. Exceptions turn into the rule very easily. Cisco ensures that no project is approved outside Cisco corporate policies and that the chairman, chief finance officer and chief information officer support this work environment and strategy.
- A flexible policy that enables many employees to telework, based on their job requirements and their manager's approval. Where necessary, this policy is customized to reflect country-specific laws and employee entitlements.
- Creating a company culture of trusting employees to work responsibly, strong performance management practices and finding the right balance of autonomous and collaborative action.

- A ‘pay-for-performance’ compensation philosophy and strong performance management systems are used to evaluate employees and determine their compensation. This model helps employees and managers identify specific goals and job expectations, but gives the employees significant flexibility over when, where and how to meet them.
- Offer training and coaching to managers for setting expectations, communicating effectively and giving useful feedback on the job performance of remote employees.
- Regularly sponsor events in local Cisco offices that bring together nearby employees, even if they do not work in the same team or department. These events give employees social and networking opportunities, and help to sustain their feelings of connectedness to the company.

CONCLUSIONS AND RECOMMENDATIONS FOR ACTION

The subject of telework appears to be of great importance to the social and economic development of an emerging country such as Brazil. The global competitive environment, influenced by strong issues in the changing political, economic, social and climate, requires new solutions for both old and new problems. Technology is an important weapon in this sustainability war, which needs to be appropriately applied for increasing the population’s wealth. In a democracy, regulation and negotiation facilitate a smooth transition in society.

The incredible increase in Internet users in the country, around 20 percent in the most recent year, reached almost 50 percent of the entire population – in 2017, 57.8 percent of the country’s households (Santos Capinheiro 2018) were connected to the Internet, which means an even bigger percentage when focusing on just the active working population. Based on IBOPE – NIELSEN projections of 10 percent annual Internet growth in Brazil (IBOPE – NIELSEN 2015), it is reasonable to predict that teleworkers will jump from nearly 7.5 million currently to 15 million by 2020. The congestion and air quality improvements potentially attainable through telecommuting could be substantially increased by proper education and incentives. The direct energy, air quality, safety and time benefits of telecommuting will be increased as the degree of congestion is reduced. However, telecommuting could also potentially stimulate urban sprawl and have other impacts on land use and public transportation. Factors that will affect the rate of growth of telecommuting include the uncertainty of benefits for employers and the considerable time and effort inherently

required in bringing about major changes in work styles and ways of doing business. Telecommunication services and equipment are adequate for most current telecommuting, but high-bandwidth capabilities will be needed in the future and would be beneficial now. Government agencies can play a significant role in facilitating and encouraging telecommuting. Telework can also be an effective tool for travel demand management.

The analyses for this chapter show that telework is not suitable for every job, person or situation. Whether an individual telecommutes, how often and when, are decisions of the employer and the employee, made under the constraints of the existing physical and institutional environment. Conditions that must be met before a person can become an active home-based teleworker include the following:

- The job must be suited, at least in part, to performance at a remote location.
- The capabilities and personal characteristics of the employee must be appropriate for working with little or no direct supervision.
- The employing firm must accept telecommuting as a legitimate and desirable activity, provide necessary support and have appropriate IT infrastructure in place.
- The supervisor or manager of the employee must accept the concept and practice of telecommuting.
- The employee must feel comfortable with telecommuting in terms of its suitability for his or her personal work habits and style, its effect on social interactions and on their advancement and career.
- The employee must have a suitable workplace and working time free of distractions (such as childcare responsibilities).
- Available technology, particularly telecommunications services, must be adequate and cost-effective for the work to be performed at home.

While all of these conditions can be met in many cases, each will filter out a portion of the potential telecommuting population. Some of these elements are eliminated or modified in the case of satellite telework centers, but implementation of such centers is more complicated, costs could be higher and, depending on specific circumstances, vehicle miles and emission reductions could be zero or even negative.

Continuing research is needed to fully understand telecommuting costs, benefits and future impacts. We suggest that future studies should focus on:

- the economic feasibility of a new work model based on telework;
- the effect of social isolation as a new job insulation, limiting the professional development of teleworkers;

- the differences in the impact of telework among the hierarchical levels (C level, managers, supervisors, and leaders);
- the use of telework as part of contingency plans in emergency situations;
- the use of telework as a best practice to improve work and personal life balance;
- the use of telework as a social inclusion tool for minorities and special needs people;
- telework and productivity gains, cost reduction and improved outcomes;
- new impacts as a consequence of new technological developments, such as broadband, social networks, collaborative and related tools that establish new paradigms such as telepresence and automatic continuous translating;
- the impacts of new generations of ‘digital natives’ with new habits, cultures, and abilities; and
- telework as a change management and an entrepreneurship enabler.

Telework has grown remarkably in Brazil. The increasing rates of adherence are mainly due to some known factors, such as the popularization of IT and pressures for reduction of costs and increased productivity in companies. The global people mobility crisis and atmospheric contamination in urban centers also have contributed to the decisions of governments and companies to adhere to remote working. However, there is still resistance that contributes to reduce the growth in the adherence of companies to telework; this resistance is caused by several factors, such as conservative managers, administrative risk aversion, lack of new parameters for tasks and productivity, limited knowledge of new IT and telecommunications resources, and many others. The myth of ‘staying at home to work’, related to the cultural tradition that work is outside the home or sharing professional, domestic and family tasks, are additional barriers to telework adoption. These various types of resistance are now being overcome by reality.

Stationary working spaces are expensive, distant and often inflexible. Competitiveness decreases when compared with competitors who practice remote activities. Workers lose their jobs to lighter and faster companies that practice telework. Environmental limits imposed by pollution and global warming are being incorporated into international agreements and local legislation. Governments are strongly charged to provide quality services without increasing costs. Congested traffic and queues for public transport catalyze the population to protest against the mobility crisis. The argument that teleworking and all types of remote activities offer a quick, effective and inexpensive fix to respond, at least in part, to these challenges

is true. The first steps are computer equipment purchased at retail stores, a clever identification of first adopters, and an effort to change culture. Telework is one of the solutions for the mobility crisis we face, and helps to reduce environmental degradation, improve public health, reduce exclusion and mitigate other damage to the family and social structures.

NOTES

1. Sobratt – Sociedade Brasileira de Teletrabalho e Teleatividades (Brazilian Association for Telework).
2. GETST – Working Excellence Group Work in a Transforming Society.
3. IBGE – Instituto Brasileiro de Geografia e Estatística (Brazilian Institute for Geography and Statistics).
4. PNAD – Pesquisa Nacional por Amostra de domicílios (National Households Random Research).
5. CEMPRE – Cadastro Central de Empresas (National Companies File).
6. SAP – HR consulting company, www.sapconsultoria.com.br/quem-somos/?lang=en – 2014 Annual Research on Home Office (accessed 27 June 2019).
7. GPTW – Great Places to Work, www.greatplacetowork.com.br (accessed 27 June 2019).
8. CATHO – Internet-based consulting company, www.catho.com.br (accessed 27 June 2019).
9. IBOPE – Instituto Brasileiro de Opinião e Estatística (Brazilian Institute of Opinion and Statistics), www.ibope.com.br/pt-br/Paginas/home.aspx (accessed 27 June 2019).
10. Gol Airlines – low-cost model Brazilian airline, <http://www.voegol.com.br/en-us/Paginas/Default.aspx> (accessed 27 June 2019).
11. Porto Seguro – leading and innovative Brazilian insurance company, <http://www.portoseguro.com.br/en> (accessed 27 June 2019).
12. BSP – Business School São Paulo, Laureate Universities, CETEL is the Telework Study Center, <http://bsp.edu.br/pesquisas-e-publicacoes/> (accessed 27 June 2019).
13. WOW – Brazilian start up accelerator.
14. CLT – Consolidação das Leis do Trabalho (Consolidation of Labour Laws).
15. Home Agent – full home office call center company, www.homeagent.com.br (accessed 27 June 2019).
16. PwC – PricewaterhouseCoopers.
17. FGV – Fundação Getúlio Vargas (Getúlio Vargas Foundation).
18. Banco do Brasil – largest Brazilian bank.
19. AVAPE – Associação para Valorização de Pessoas com Deficiência (Association for Valuing Persons with Disabilities), <http://www.avape.org.br/portal/en/avape.html> (accessed 27 June 2019).
20. Algar – leading Brazilian technology company, <http://www.algartech.com/en> (accessed 27 June 2019).
21. VPN – virtual private network.
22. Seguradora líder, <http://www.seguradoralider.com.br> (accessed 27 June 2019).
23. DPVAT – Seguro Obrigatório de Danos Pessoais Causados por Veículos Automotores de Vias Terrestres (mandatory insurance personal injury caused by motor vehicle land routes).
24. WAHA – Work at Home Agent model, <http://viasourceos.com/how-the-work-at-home-agent-waha-model-benefits-mothers> (accessed 27 June 2019).
25. SERPRO – Serviço Federal de Processamento de Dados.
26. FDC – Fundação Dom Cabra, <http://www.fdc.org.br/en/Paginas/default.aspx> (accessed 27 June 2019).

27. Ticket – <http://www.ticket.com.br/portal/> – Accor Group.
28. SMA – Secretaria do Meio ambiente do Estado de São Paulo (Environment Secretary for the State of São Paulo).
29. CLT – Consolidação das Leis do Trabalho (Master Law in Brazil about Labor Relations).
30. Compuware – a software company acquired by Dynatrace.
31. This is a testimonial of the president of Dynatrace to the consultants of GCONT Group of Consultancy on Telework in 2015, in a project in São Paulo supported by the World Bank, on 15 July 2013.
32. SINPD – Sindicato Nacional de Profissionais de Processamento de Dados (National Union of Data Processing Professionals).
33. Fibria – <http://www.fibria.com.br/> (accessed 27 June 2019).

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