

## TELECOMMUTING AND HRM: A CASE STUDY OF AN INFORMATION TECHNOLOGY SERVICE PROVIDER

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### ABSTRACT

With the development in information technology resources, a way of working has been standing out: telecommuting. This manner of working from a distance may offer a competitive advantage in attracting and retaining highly skilled professionals. The purpose of the research presented in this article is to identify guidelines for the implementation and management of telecommuting, as an alternative to overcome the shortage of qualified professionals in Information Technology (IT). The results, based on a case study of a Brazilian subsidiary of a multinational organization that provides IT services, show that telecommuting (1) contributes to attracting and retaining qualified professionals in IT, (2) should be based on trustworthy relationships, (3) has to be supported by a strategy of decentralization of both structure and organizational assets.

**Keywords:** Information Technology, Human Resource Management, Telecommuting.

### 1. INTRODUCTION

In the Information Technology (IT) sector, the service segment stands out for having significant growth rates, with an increasing demand for high-skilled professionals worldwide. According to the International Data Corporation Consulting

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Group (IDC, 2009), the global growth in this sector was 5 percent in 2007. In Brazil, this growth was 11 percent. Skilled labor is even more necessary in order for such a growth to be sustainable, in addition to the need of having adequate infrastructure.

Leão, Moresi, and Oliveira (2007) warned that one of the biggest challenges for the Brazilian IT sector is the shortage of skilled professionals. With the purpose to overcome this shortage, several initiatives have been implemented by organizations, such as partnering with educational institutions, investing in training, and telecommuting. According to Nilles (1997), the particularities of telecommuting indicate the need for the adoption of specific practices in order to manage this type of work relationship. For the author, these practices may differ from those used in a traditional work system. Thus, it is important to understand these practices so that telecommuting can make a difference in the war for talent by increasing the number of potential professionals for companies that seek to fulfill their highly-skilled labor needs.

The study reported in this paper has the purpose to identify guidelines for the implementation and management of telecommuting, in order to overcome the demand for highly skilled professionals by IT service providers. The primary focus of this investigation is Human Resource Management (HRM) practices directed at managing telecommuters: staffing, training, compensation, and performance appraisal. The organization investigated was chosen because it is one of the largest in the IT service sector in Brazil and in the past few years it has gone through significant changes in its growth strategy, including the implementation of telecommuting. In the next section, we present the theoretical references. Next, the methodology used is described. Following that, the presentation and analysis of the data, as well as the conclusions and recommendations for future research, are presented.

## 2. THEORETICAL REFERENCES

In accordance to this article purpose, the theoretical references are based on the following themes: IT Service Sector and the Shortage of Skilled Professionals, Telecommuting, and Human Resource Management Practices.

### **The Information Technology Service Sector and the Shortage of Skilled Professionals**

Since the end of the 19th century, companies have faced significant transformations in business management, as a consequence of industrial automation. At the height of the industrial revolution, “in industries such as railroad, and steel, corporate strategies were marked by a focus on volume expansion and vertical integration” (Snell, Shadur, & Wright, 2001, p. 628). During the last three decades, heeding the call for knowledge management, the competitive environment has experienced significant changes and, as a result, the use of Information Technology (IT) has virtually been transformed into an essential “passport” for corporate competition at all levels.

Organizations from different sizes and locations must fight for market share on a global level. For Cazarini, Santos, and Oliveira (2007), IT is of such importance that it has induced significant worldwide transformations in the organizational environment, affecting the formulation of corporate strategies and business activities. In terms of strategic operations in IT, Feeny and Willcocks (1998) emphasize the necessity for an

alignment between this and other organizational sectors, affirming that the companies need to sustain three key points in IT: “a reusable technology base, a strong IT staff, and a partnership between IT and business management” (Feeny & Willcocks, 1998, p. 9).

Due to the decline in costs of hardware, the increase in self-confident people using IT, and the development of advances in IT, several managers concluded that the use of Distributed Data Processing (DPP) is a strategic choice. According to Buchanan and Linowes (1980), DPP consists of the systematic decentralization of the activities involved in processing data, including a great variety of management tasks and responsibilities, and should be associated with an organizational strategy.

With the implementation of DPP, tasks that were previously accomplished in large data processing centers are partitioned into smaller activities, which are then transferred to remote centers for their conclusion. In this manner, the decentralization of tasks allow for greater flexibility in IT operations, as it becomes outsourced. With the primary objective being reduced costs, many companies located in developed countries have significantly increased their outsourcing. According to MacDuffie (2007), deriving from DPP, these companies come to use offshore outsourcing, which consists of the outsourcing of IT to companies located abroad, generally in emerging economies. For Silva, Duarte, Castro, and Araújo (2009), the key element of this strategic change is the growing importance of emerging economies like Brazil and India.

Meanwhile, many IT companies are facing a shortage of highly skilled professionals in emerging economies, including Brazil. An evaluation made by International Data Corporation (IDC, 2009) revealed that the IT service sector in Brazil has grown above the world’s average. However, Scartezini (2007) pointed out that the country is responsible for only a small share of the global market for IT service providers. Brazil’s position in the world market of software and services is represented in table 1.

Table 1: Brazil’s Participation in the World Market for Software and Services

Brazil’s world rank in software and services	2004 – 15 <sup>th</sup> ; 2005 – 12 <sup>th</sup> ; 2006 – 13 <sup>th</sup> ; 2007 – 12 <sup>th</sup> ; 2008 – 12 <sup>th</sup>
Brazilian market movement and growth	Approximately \$11.12 billion in 2007, an increase of 22.3% over 2006.
World Market	In 2007, Brazil was responsible for 1.43% of the global market for software and services. In 2006, it was responsible for 1.27%.
Latin America	In Latin America, Brazil was the sector leader, with 43% market share, followed by Mexico, Argentina and Colombia.

Source: IDC (2009), Scartezini (2007).

In contrast to the relatively high level of competition with foreign companies in the Brazilian market, the presence of Brazilian companies abroad still lacks vigor (Burzynski, Balbinot & Graeml, 2010, p. 500). For the authors, smaller and less

developed countries have been able to take better advantage of the opportunities in the international market than Brazil. Among the reasons for the lack of participation Brazilian companies have in the global market, the shortage of skilled professionals and the very high payroll taxes stand out. In order to have a significant growth in the Brazilian Software and Services sector, it is necessary to overcome some important restrictions:

1. Insufficient skilled professionals to meet the demands;
2. A shortage of technicians: IT professionals usually have Undergraduate and Graduate degrees, whose compensation costs can impact the organization competitiveness;
3. A shortage of professionals fluent in English, which harms international ventures: public policy in China and Mexico supports English education and India has an inherent advantage as English is one of their official national languages;
4. High indirect HR costs: in terms of the internal market, the challenge is to operate with ever-increasing costs in regards to hiring and employment.

One challenge for HRM in an IT organization operating in Brazil is to find out alternatives to minimize the impacts of these restrictions. In this context, flexible practices in hiring and work relationships, both in terms of workday and its location, may offer a distinctive element in the war for talent, increasing the number of potential qualified applicants. Strategic initiatives are being taken, primarily in the IT sector, by the use of home-offices, the typical structure of telecommuting.

### 3. TELECOMMUTING

The term telecommuting, also known as remote work, was coined in 1970. It was mentioned for the first time in the literature by the American physicist Jack M. Nilles, considered “the father of telecommuting”. According to the definition of Nilles (1997), telecommuting can be conceived as the use of computers and telecommunications in manners that change the traditional geography of work and it has, like a telecommuter, an individual who uses technology in a way that supersedes the traditional restrictions of space and time placed on work.

In a general manner, telecommuting can result in both positive and negative aspects for the individuals and organizations. According to Andreassi (1997); Barros and Silva (2010); Fusco, Lima, and Riça (2003); Lautsch, Kossek, and Eaton (2009); Martinez, Pérez, Luis, and Vela (2007); Nilles (1997); Pyöriä (2011), the positive aspects for the telecommuter are: savings on transportation, food and clothes and time; flexible work hours; improvement in health due to the reduced stress levels; an improvement in the quality of life due to the time flexibility and a work location that permits reconciling work with family life; and an increase in motivation and productivity. The same authors point out some of the negative aspects to the adoption of a home office for telecommuters: social and professional isolation; loss of home space; a possible loss of job benefits (transportation, meals); lack of interaction with professional colleagues; an increase in expenses related to home infrastructure; a

difficulty in separating professional life from private life; difficulty in any future adaptation in the case of work away from home again; and possible limitations to career opportunities.

Regarding positive aspects for organizations that adopt the home office system, several authors (Andreassi, 1997; Fusco et al., 2003; Martinez et al., 2007; Nilles, 1997; Pyöriä, 2011) believe it allows for a greater capacity for attracting and retaining qualified workers; access to a larger domestic talent pool (elderly and handicapped individuals); reduction in physical space requirements; reductions in absenteeism; fast business growth; greater flexibility in work structure; an increase in productivity and work quality; and access to a global workforce. Some of the negative aspects the authors highlight are: the necessity for new management capabilities; complex issues of health and safety; workers identifying less with their company, or at least a difficulty in implementing and extending corporate culture; possible social isolation of employees.

The positive and negative aspects of telecommuting present challenges for the HRM department because of the specific characteristics these work relationships have. In some ways, they require the implementation of specific practices in staffing, training, compensation, and performance appraisal.

#### **4. HUMAN RESOURCE MANAGEMENT PRACTICES**

Due to the characteristics of telecommuting, it is important to evaluate the need for specific HRM practices. According to Lautsch et al. (2009), greater knowledge is needed about how to manage this new way of working, particularly in blended workgroups comprising both telecommuting and non-telecommuting employees. For Martinez et al. (2007), HRM practices aimed at telecommuting correspond to the level of its implementation. Research into how its implementation yields positive results indicate that such specific steps are necessary, not just for the success of telecommuting itself, but also to enhance its contribution to the organization.

As understood from Braga (2006), HRM of a telecommuting arrangement can mainly differ from a conventional working system in the following aspects: space, time, communication, organizational history, management models, socialization processes, organizational policies, leadership and power, rules and norms, dress code, human resource policies and practices, and organizational climate. In this aspect, it is appropriate to highlight the management methods presented by Rubio (2001). Using a telecommuting management program in the IT service sector that was implemented in an American multinational's Spanish subsidiary as a basis, the author created the "FAT Formula" (Flexibility-Awareness-Trust). This formula consists of three strategic practices (Rubio, 2001, p. 2):

1. Apply flexible labor practices to all parties involved;
2. Conduct an awareness campaign centered on working at a distance;
3. Manage the campaign through trust-based relationships (and not control), focusing on results (instead of physical presence).

If some of these factors are not present in the organization, Rubio (2001) categorically affirms that telecommuting is not a viable option. The author states that flexibility can be "obtained through equipment that is adaptable to any situation, and

through which everyone can access all of the organizations' information" (Rubio, 2001, p. 3). Such flexibility as work location, combined with flexibility in working hours, is one of the positive aspects telecommuting has for the telecommuter. According to Nohara, Acevedo, Ribeiro & Silva (2010), most of the teleworkers they interviewed considered the flexibility in working hours, in working location, and in the control over work tasks, as some of the most important benefits of teleworking that can motivate better performance and organizational identity.

For Martinez et al. (2007), telecommuting is a flexible modality that requires the implementation of specific HRM practices, with the purpose of creating an organizational climate based on trust. This is because, in the majority of cases, employers are more likely to offer telecommuting as an option to the professionals they trust the most. Supporting this idea, several authors (Braga, 2006; Mayo, Pastor, Gomez-Mejia, & Cruz, 2009; Rubio, 2001) affirm that for a smooth operation of telecommuting, it is necessary to have an organizational culture based, above all, on trust between supervisors and their subordinates. These authors highlight that managers must keep in mind that even employees who are physically in an office can use a computer for personal reasons, and not just for professional ones: "productivity can no longer be associate with presence. It is important to teach to work towards objectives and achieving results" (Rubio, 2001, p. 7). In this belief, Rubio agrees with Braga (2006); Mayo et al. (2009), who support the need for managers of telecommuters to change their focus from "work time" to "work results". On the other hand, telecommuters should make a commitment to work towards quality, as well as an agreement on deadlines, results, and benchmarks. This posture requires, in addition to an auspicious organizational culture, a decentralized organizational structure in which HRM policies concerning telecommuting emphasize the substitution of physical control.

Towards the objective of promoting flexibility, awareness and trust in relationships with telecommuters, traditional HRM practices need to have particular characteristics. Considering the purpose of this research, we investigated the following practices: staffing, performance appraisal, training and compensation, which have a large influence on the processes of attracting and retaining highly skilled professionals. In the next sections, each of these practices will be analyzed, with the focus on the particularities of telecommuters.

**Staffing.** The staffing process is pointed out by Nilles (1997) as one of the most important and challenging aspects concerning the successful implementation of a telecommuting program. Apart from the fact that some companies manage this process using the traditional methods for recruiting and selecting traditional workers, there is not a consensus in the literature. Authors such as Blackburn, Furst, and Rosen (2003) emphasize that some specific factors should be taken into consideration, because not all candidates have the right profile to be a telecommuter. In this respect, Golden (2009, p. 247) observes that "some individuals may not prefer, or may not function well within work situations in which they have limited face-to-face contact with co-workers or others in the work environment, and therefore may not do teleworking well. Conversely, it may be that some individuals thrive in the comparative solitude of working from home or another remote location, and are therefore well suited to this work mode". For MacDuffie (2007), hiring should occur in a conventional manner, by verifying the same attributes defined for other workers. Telecommuting, according to Nilles (1997), requires organization, discipline, and personal motivation, which represents a challenge for the HRM department: to identify professionals with these characteristics and hire them as telecommuters.

Blackburn et al. (2003) identify some imperative characteristics that remote work candidates must have, and that should be tested during the staffing process: (1) self-management: personal initiative with a capacity for defining personal benchmarks and achieving them in the absence of rigorous supervision; (2) communication: the ability to use technology for efficient communication; (3) cultural awareness: the ability to deal with cultural diversity; (4) in-depth knowledge of technology. Considering that these characteristics are not easily identified through tests and interviews, internal recruitment is a good choice for telecommuters. However, in the cases where it is absolutely necessary to use external recruitment, traditional methods for announcing the job opportunities can be used. The well-known method for recruiting professionals - the employee referrals - is very efficient for telecommuters, due to the trust issue discussed before. If an employee has recommended a potential candidate, it means that he/she knows the candidate's qualifications to work from a distance.

In the selection process, the easy access to internally recruited candidates simplifies the application of selective techniques: interviews, written and oral knowledge tests, psychological tests, and group dynamics. In the case of external recruitment, HR professionals may face difficulties to apply these techniques in person. Nilles (1997) affirms that the tools and technologies used to support distance communication are not a substitute for face-to-face physical and direct interpersonal interaction during the hiring process.

Regarding labor laws in Brazil, there is no difference between the job executed at the company and that performed at the employee's home. All of the obligatory procedures during the hiring process are also valid for telecommuters. After the hiring process, a mandatory period of residence at the company office is one of the most used techniques when telecommuters are recruited externally. This period can vary, depending on the hiring urgency, physical location of the worker, and specific training requirements. This type of initiative permits that the new employee experience an immersion in the organization, facilitating his/her adaptation due to the interaction with superiors and work colleagues.

**Performance appraisal.** Performance appraisal is particularly important in the context of telecommuting considering that face-to-face interactions are occasional. Cascio (2000) argues that this distance is one of the biggest challenges for telecommuting. For this reason, it is fundamental to define and communicate, in a clear and objective manner, each person's roles and responsibilities, as well as each person's tasks and compensation. Furthermore, in the author's opinion, it is necessary to establish specific and challenging benchmarks, along with appraisal actions focused on performance (Cascio, 2000).

According to Lautsch et al. (2009), the use of flexibility should not undermine telecommuter performance, and that supervisors should adjust their behaviors to ensure positive performance. For Ji, Liu, and Min (2010), the success of remote working relies heavily on effective communication. Martinez et al. (2007) warned that communication is very important in the process of performance appraisal: managers should develop their communication skills in order to avoid the isolation feeling. For the authors, it is important to not rely on just emails or instant messages, it is also necessary to balance the use of these tools with learning how to conduct virtual meetings and deliver useful feedback (Martinez et al., 2007).

The feedback process is one of the most relevant elements to the effectiveness of the performance appraisal, and is continually mentioned in the telecommuting literature.

According to Nilles (1997, p. 47), “continuous feedback as to how work is being carried out is a necessary element of good supervision, but in many cases is disregarded in telecommuting”. For MacDuffie (2007), feedback should be given periodically as part of a performance management system, and is particularly important for virtual teams where, quite often, it is difficult to have the opportunity for face-to-face sessions, informal feedback. In the opinion of this author, the consequences of a lack of continuous feedback within this context can be damaging to the professional, causing isolation, a drop in productivity, a lack of motivation, and difficulties in acquiring new knowledge (MacDuffie, 2007).

Braga (2006) and Mello (1999) suggest that, within the scope of remote labor, the question of control over the employee and the work performed requires the management of “those that can’t be seen” (Golden, 2009, p. 246) which means a change in perspective: the focus should be moved from “time of work” to “results of work”. Due to the fact that telecommuting is based upon a high degree of autonomy and little control, Mayo et al. (2009) believe that managers are more likely to compensate their employees for performance. The differences in control methods for telecommuting comparing to conventional labor were also analyzed by Alves (2008): because telecommuting does not allow direct observation of workers or control over them through means such as “clocking in”, employers must turn to alternative technological tools that enable this process: control of access to the company’s computer networks, generation of periodic reports, and documentation of activities developed by the telecommuter. This information allows the company to follow up progress, and compensate it based on goals and results.

In sum mary, the ideas of the authors mentioned previously are that, considering that it is not possible to control telecommuters in the same way as they control traditional workers, organizations should delegate more managerial responsibilities to telecommuters. This means not only being responsible for results, but also for determining and enacting the most adequate methods for achieving them. Evaluation of the telecommuter occurs, therefore, in a more indirect and subtle manner than for a traditional worker; but is still present, in an intensity which certainly depends on the organizational culture, strategy and objectives.

**Training.** According to Lawler III (2003), organizations truly committed to the development of their employees have positive results; “this is especially important in technology companies that need a workforce whose skills and abilities need constant updating” (Lawler III, 2003, p. 123). Concerning the telecommuting process, Menezes, Santos, and Silva (2006, p. 53) assert that special attention should be directed to the training strategies. The use of distance-learning programs is important for the success in adopting telecommuting, primarily for high-tech companies. In a research published by Hone and Kerrin (2001), the lack of training opportunities was considered a negative aspect of telecommuting, in the opinion of the telecommuters and managers interviewed. The conclusion reached by these authors is that distance-learning based training is efficient when used for virtual teams, and is often necessary to create incentives to encourage its use.

The implementation of training programs for the telecommuters’ managers is also relevant. Martinez et al. (2007) affirm that it is necessary that these managers develop their communication skills. Mello (1999) and Menezes et al. (2006) indicate that training aimed at managers should focus on the capacity for managing virtual teams, and encompass aspects such as: improving communication, defining goals, and



performing evaluations based on results. According to these authors, white-collar employees should also be trained to offer adequate support for telecommuters.

In terms of professional development of the IT employees, Mezzomo and Nunes (2004) showed that the growth in IT outsourcing and the need to demonstrate personal knowledge about specific technologies has promoted the growth of Professional Certifications. These authors conclude that in several areas of IT, having only an undergraduate degree is not sufficient, especially in sectors that make use of highly specialized software. McGrath (1998) attests that these certificates are an additional way of confirming professionals' knowledge, and can assist in attracting customers and increasing the functional competence of work teams. Another relevant aspect is that investments in training and development can increase confidence when a telecommuter recognizes that the company is investing in his/her professional development.

**Compensation.** We did not find evidences of differences in compensation systems between traditional and telecommuting employees in the literature reviewed. In the Brazilian legislation, articles 6<sup>th</sup> and 83<sup>rd</sup> of Consolidação das Leis do Trabalho<sup>1</sup> (labor legislation) makes reference to working from a distance. Article 6<sup>th</sup> states that there shall be no difference between work performed at the company and that executed at the employee home, in as much as it characterizes the employment relationship. It is to be noted that this article does not make a distinction between telecommuters and other categories of employees. According to article 83<sup>rd</sup>, telecommuters have the right to the same fringe benefits: thirteenth-month salary, time off, compensation for overtime, vacation, official holidays, sick leave and other types of leave as established by law.

Even though telecommuters have more flexible working hours, the number of hours they work is still subject to the overtime compensation law. The Brazilian labor legislation, as agreed upon with labor unions, guarantees that telecommuters have the same overtime payments as other workers. This legislation also demands that companies with more than ten employees have a means of controlling labor hours. Since telecommuter professionals perform their activities at a distance, online systems of control should be used.

The importance of monetary rewards in employee motivation has been the subject of several studies. Monetary rewards are not equally important in all situations or to all individuals (Rynes, Gerhart, & Minette, 2004). There are many other elements in the compensation system that can stimulate employees' motivation. In this case, telecommuting may be considered as a strong motivational factor. Andreassi (1997) discovered that many professionals change employment, at times receiving a lower payment, just to have the option of working at home. For Mayo et al. (2009), telecommuting can allow great flexibility for the worker, which is an important non-financial reward. In the opinions of the authors cited, telecommuting is sometimes used by companies for the primary motive of attracting and retaining skilled professionals. In addition, it can increase employee's motivation by offering the incentive of self-responsibility and autonomy. The skilled-based pay as well as performance-based pay systems should also be included in the telecommuters' compensation. Paying the person rather than the job is particularly popular in high-tech companies and team-based manufacturing operations (Lawler III, 2003, p. 195). In the case of outsourcing, telecommuters might be hired to work on temporary activities or projects. In this case, MacDuffie (2007) and Mello (1999) insist that it is important to tie compensation with the work accomplished, creating periodical checkpoints.

## 5. METHOD

The empirical research was designed to investigate HRM practices directed at managing telecommuters, and to identify guidelines for the implementation and management of telecommuting. It was based on a case study of a multinational corporation that provides IT services. Data was obtained through documental analysis (labor contracts and organization documents) and semi-structured interviews composed by open-ended questions. The number of employees in the Brazilian subsidiary is about 14,000 with 2,500 managers. We interviewed 12 telecommuters working with IT, 6 telecommuters' managers, and 1 HR manager. The choice of the interviewees was intentional, due to the need for investigating employees who could make relevant contributions to the research topic. The primary criteria used to choose the telecommuters is that they have to be working as telecommuters at the company for a minimum of six months. In relation to the choice of telecommuter managers, the criteria used is that they manage a minimum of two telecommuters. For choosing the HR manager, the criteria are having participated in the process of implementing telecommuting in the Brazilian subsidiary of the organization, and also participating, having participated or having knowledge about the existing staffing process, performance appraisal, training, and compensation practices.

The interviews were conducted between September 2009 and December 2009. Each interview lasted an average of 1 hour and the term home-office was used instead of telecommuting, because it is the term used at the company. Due to the fact that the majority of the participants were located in Curitiba and São Paulo, the interviews with these professionals were made face-to-face. For participants from other locations, we used telephone interviews. In both cases, we used an interview guide to address the following topics: (1) telecommuting, (2) staffing, (3) performance appraisal, (4) training, (5) compensation. To maintain confidentiality, the identification of the organization, as well as the names of the interviewees, are not mentioned. Each interviewee is referred to by coded letters-numbers: Tel-telecommuter, TcMgr-Telecommuting Manager, MgrHR-Human Resource Manager. Their principal characteristics are presented in Table 2.

Table 2: Primary Characteristics of the Subjects Interviewed

Code	Age/Sex/Marital status	City	Position	Interview Date
Tel01	29/M/Married	Sorocaba – SP – Brazil	Technical area of IT	12/11/2009
Tel02	39/F/Married	Curitiba – PR – Brazil	Technical area of IT	10/14/2009
Tel03	38/M/Married	Curitiba – PR – Brazil	Technical area of IT	10/14/2009
Tel04	31/M/Single	São Paulo – SP – Brazil	Technical area of IT	09/30/2009
Tel05	48/M/Married	Curitiba – PR – Brazil	Technical area of IT	10/14/2009
Tel06	46/M/Single	Rio de Janeiro - RJ – Brazil	Technical area of IT	10/27/2009

<b>Tel07</b>	30/M/Married	Belém – PA – Brazil	Technical area of IT	10/05/2009
<b>Tel08</b>	51/M/Married	Timóteo – MG – Brazil	Technical area of IT	12/11/2009
<b>Tel09</b>	44/M/Single	Vinhedo – SP – Brazil	Technical area of IT	10/05/2009
<b>Tel10</b>	33/M/Single	Campinas – SP – Brazil	Technical area of IT	11/05/2009
<b>Tel11</b>	30/M/Single	Curitiba – PR – Brazil	Technical area of IT	10/15/2009
<b>Tel12</b>	35/M/Married	Sumaré – SP – Brazil	Technical area of IT	10/04/2009
<b>TcMgr01</b>	48 /M/Married	São Paulo – SP – Brazil	Telecommuter manager	10/09/2009
<b>TcMgr02</b>	32 /M/Single	São Paulo – SP – Brazil	Telecommuter manager	11/17/2009
<b>TcMgr03</b>	35/F/Married	São Paulo – SP – Brazil	Telecommuter manager	10/22/2009
<b>TcMgr04</b>	31/ F/Married	São Paulo – SP – Brazil	Telecommuter manager	11/16/2009
<b>TcMgr05</b>	28/F/Married	São Paulo – SP – Brazil	Telecommuter manager	10/22/2009
<b>TcMgr06</b>	40/F/Single	São Paulo – SP – Brazil	Telecommuter manager	12/11/2009
<b>MgrHR01</b>	35/F/Married	São Paulo – SP – Brazil	HR manager	10/26/2009

Source: Empirical Research.

Data analysis was based on a phenomenological approach for qualitative data analysis proposed by Minayo (1998). Each individual interview was analyzed using categories stemming from the literature and the original research interest, but these were improved and modified as new categories emerged from data. The categories that had emerged from individual interviews were then tested against the rest of the data collected. Results are illustrated with direct quotes of those interviewed. Additionally, researchers' notes were inserted in order to facilitate the understanding of information; these are presented in brackets. Due to a previous agreement with the company, we only revealed non-confidential information.

## 6. SYNTHESSES OF FINDINGS

The results are divided into two sections: (1) the process of telecommuting implementation in the organization; (2) telecommuting HRM practices, which are further divided into the following sections: staffing, performance appraisal, training, and compensation.

### The Process of Telecommuting Implementation

The organization investigated is one of the largest providers of IT services in the world, operating as a globally integrated company with a highly decentralized structure for IT activities. This company is situated in many countries and is renowned primarily for supplying IT services, being strongly positioned in the outsourcing sector. The

Brazilian headquarter is located in São Paulo, with subsidiaries in the capitals of the major Brazilian States. The majority of telecommuters are computer technicians, programmers, systems analysts and support analysts. Due to the company growth in Brazil in the last 5 years, telecommuting has been widely used as a strategy to overcome the demand for high-skilled professionals.

The first issue analyzed is why and how the organization implemented telecommuting in the Brazilian subsidiary. In the opinion of the HR manager, telecommuting started at Brazil almost accidentally: “Employees spent a lot of time at the companies [customers], and couldn’t access their emails, report work hours, or communicate with other members of the team. Due to this fact, it was decided to supply access via internet.” (MgrHR01, personal communication, October 26, 2009). In order to solve this problem, the company developed a technological infrastructure and software that allowed employees to access the internal network, known as Virtual Private Network (VPN). Because it is an IT company, it did not face major problems or costs with the implementation of the technological infrastructure necessary for telecommuting. This aspect is confirmed by Mayo et al. (2009): telecommuting is relatively easy and inexpensive to implement.

With the VPN software installed and an access code, any employee with a notebook connected to the internet was able to contact the company’s network and make use of any of the programs available in the system. The customers had high-speed internet connections, which enabled the use of the VPN technology by workers on site. However, with a slow-speed internet connection at home, it wasn’t possible to implement the work-at-home structure without compromising professional activities. The implementation of telecommuting happened in 2002, when high-speed internet became accessible in Brazil. In this respect, one of the Managers stated that: “The trend really caught on when Telefonica launched ADSL connections, from then on everyone wanted to work from home, especially on Fridays” (TcMgr04, personal communication, November 16, 2009).

Due to the implementation of telecommuting, there was a need to improve IT and telecommunication resources, in a way to support remote connections with quality and reliability. The flaws in these resources began to cause disorder as more employees began to work from home, as related by Telecommuter 04: “I was working from home every day [...], when the VPN felt there was a chaos” (Tel04, personal communication, September 30, 2009). Further than the physical IT infrastructure, some programs designed to work only within the company intranet were adapted for remote use, as cited by Manager 01: “the software for registering working hours migrated to an internet platform and could only be accessed via a browser” (TcMgr01, personal communication, October 9, 2009).

Since the technological infrastructure became stable, the HR department began to encourage telecommuting, motivated by three reasons (stated on the HR department website and confirmed during the interview with the HR Manager): “attract, maintain and motivate the professional”. As discussed in the theoretical reference, the shortage of high-skilled professionals in IT was one of the primary reasons for the telecommuting implementation. Another reason is that telecommuting may contribute to the retention of these professionals once hired. According to Manager 06: “[...] it is clear that a shortage of professionals in the area exists [...] working from home has helped us immensely” (TcMgr06, personal communication, December 11, 2009). This statement is consistent with the research of Leão et al. (2007) about the shortage of IT professionals in Brazil. The HR Manager further emphasized that telecommuting allows

the company to expand its activities, contributing to the organizational strategy of achieving a huge growth rate in Brazil.

Some positive aspects of telecommuting previously discussed are observed in the organization investigated. In the opinion of Manager 05, the main positive aspect of telecommuting is related to the war for qualified professionals. She specifically referred to the fact that, due to telecommuting, her team has not lost projects to teams located in Indian and Chinese subsidiaries, showing the intensive competition between these emerging markets, identified by Scartezini (2007). "Today our team has 110 people, practically 50/50 [half traditional employees and half telecommuters]. It was possible to hire people from all of Brazil and not lose the opportunities of diverse projects to India and China" (TcMgr05, personal communication, October 22, 2009). This statement also emphasizes the easiness of recruiting candidates from locations outside of the subsidiary's headquarters, allowed by telecommuting. This reinforces one of the positive aspects of this type of work highlighted by Nilles (1997): access to a global workforce.

Another positive aspect of telecommuting is the improvement in customer service because of work flexible hours, which allowed the organization to meet the customer requirements and solve problems out of the traditional business hours: "It is easier for a technician to respond to a call [a customer's technical problem] on the weekend or at night if they have the possibility of having their notebook by his/her side [...]" (TcMgr04, personal communication, November 16, 2009). For Telecommuter 01, "the IT professional should be available just like a doctor" (Tel01, personal communication, December 11, 2009). The difference in time zones between Brazil and the United States was also mentioned by one of the Telecommuters interviewed, highlighting another positive aspect of telecommuting: "[...] it [the time difference] can be up to three hours during our summer time and they [the USA] aren't, and home-office helps in this sense immensely" (Tel04, personal communication, September 30, 2009).

The space-saving aspects of telecommuting were pointed out by the HR Manager as one of its most important benefits. This aspect was previously mentioned during the literature review by Andreassi (1997), concerning a reduction in the space required for company facilities: "[...] the speed of construction [of new buildings] did not accompany the rapid growth in the number of contracts" (MgrHR01, personal communication, October 26, 2009).

It was also possible to identify some of the negative aspects in adopting the telecommuting. For Manager 02 (TcMgr02) and Manager 06 (TcMgr06), telecommuters face difficulties to interact with superiors and on-site colleagues and have limited access to training programs. Manager 03 cites communication barriers that make the process of motivating telecommuters difficult: "even though we use teleconferencing, [this] didn't transmit the emotions [...] sometimes we had to deal with a very complicated situation and everything had to be achieved only through the use of our voices" (TcMgr03, personal communication, October 22, 2009). MacDuffie (2007) affirms that communications exclusively channelled through Information and Communication Technology (ICT) tools tend to eliminate non-verbal clues that amplify the understanding of what is spoken, restricting how people communicate their ideas. For the author, communication within a remote set-up can eliminate the use of visual aids.

Manager 04 says that to organize work schedules is a complex activity. Even though it is not directly related to telecommuting, this aspect was highlighted, since a large part of the telecommuters in his team serve international customers: “[...] in our case, we assist clients in the USA and Canada, and it is always a challenge to negotiate who will have to work on Brazilian holidays and who will work on the US holidays” (TcMgr04, personal communication, November 16, 2009). The challenge of aligning traditional workers and telecommuters around common goals, as well as reaching a fair distribution of tasks between them, is mentioned by Manager 03: “sometimes it is difficult to get all of those that are working from home to unite on the same objectives” (TcMgr03, personal communication, October 22, 2009).

### **Telecommuting HRM Practices**

One aspect that stands out in the organization investigated is the decentralization of the HRM practices. Several utterances (including those from the HR Manager) reveal that managers have the autonomy to make decisions usually restricted to the HR department in many organizations. It shows that the trust level present in the organization supports not only the relationships between managers and their subordinates, but also between managers and the HR department. Another aspect that shows the importance of trust-based relationships in telecommuting is that although recruiting via the internet may seem to be the most suitable technique for recruiting IT telecommuters (due to the continuous use of the internet in their professional activities), the technique used in the organization investigated is the employee referrals. The flexibility and the lack of strict rules concerning the recruitment of telecommuters make employee referrals a defining factor in the hiring process. When potential applicants receive a testimonial from an employee, it usually carries more credibility than other recruitment techniques (Lawler III, 2003, p. 81). Usually, available telecommuting positions are not advertised outside the organization. Moreover, the decision to hire new telecommuters is made by the line managers, not by the HR department.

The autonomy held by line managers is also evident in the performance appraisal process. The HR department recommends that each telecommuter goes to the company at least twice a year for individual appraisal. Nevertheless, this recommendation is not always carried out, primarily because of the need to refund employees’ travel costs. This factor can also have a negative effect on training telecommuters, due to the lack of on-site training. It is necessary that IT companies invest in enhancing their employees’ capabilities, simply because of the speed at which technological knowledge becomes obsolete in this area. Specifically in the telecommuter case, the distance education systems are a good choice. However, these systems should not be the only ones used by the organization for training their remote employees. On-site training is important, and can also be an alternative to encourage meetings and interaction with other team members.

Despite the fact that the organization studied operates in a highly dynamic sector, the definition of individual goals used to appraise telecommuters’ performance is made only once a year, and the results of this appraisal are not tied to compensation. Since the IT sector faces a severe shortage of high-skilled professionals, performance-based pay may offer a positive contribution towards attracting, retaining and further motivating telecommuters. Details of the results related to each one of the HRM practices are presented in the sequence.

Staffing. The HR department did not fix rigid rules for recruiting telecommuters at the organization investigated. The recruitment can be internal or external, but the internal one is the most used. On the company website, information open to the general public does not include the positions available for telecommuting. On the internal website (accessed only by the employees) this option is available. Manager 02 reported that internal recruitment has become an easier method for finding new telecommuters if compared to external recruiting: “Imagine an employee in Tocantins (a State located in Midwestern region of Brazil) who doesn’t even know the company and the company doesn’t know him; it’s risky to hire him for working from home, you can’t trust him” (TcMgr02, personal communication, November 17, 2009). This statement reinforces the importance of trust-based relationships in telecommuting, which exist even before the professional becomes part of the organization, as mentioned by Rubio (2001).

Regarding the selection process, resumes are only accepted via internet. They are stored in a database and analyzed by an HR specialist. This initial analysis is to determine if the candidate has the profile required by specific areas within the organization, and to evaluate the candidate’s academic background, language skills, and professional experience.

The future telecommuter manager designates a specialized professional in a specific technology to interview the candidate. Interviews with candidates from other cities are made over the telephone. For the HR manager: “the process is totally via internet, with the exception of the technical interview which is done in person or over the telephone” (MgrHR01, personal communication, October 26, 2009). In the case of Teleworker 03, the entire hiring process was done over the telephone. The first personal contact between the candidate and his future manager happened in a São Paulo airport, on the way to an international trip: “We already had a trip scheduled abroad [...] I found the resume [of the candidate], we did the process over the telephone and we met at the airport [...] there wasn’t time for him to meet me before” (TcMgr01, personal communication, October 9, 2009). We then asked this telecommuter what reasons led him to accept this type of contract without having had a previous contact with his future manager. In the words of the telecommuter “I was even in doubt as to whether it was really his own [company], but I knew someone that worked in São Paulo, and I had asked her to go and see if he [the manager] really existed” (Tel03, personal communication, October 14, 2009).

The telecommuters interviewed said that when they were hired they did not go through psychological or group dynamic tests. The first contact with the candidate (over the telephone) is always made by his/her future manager. Except in the cases of errors or missing information on the application form, the HR analyst does not contact in the beginning; they do so only after the manager has accepted the candidate. For Manager 04, it is the first contact that decides the future of the candidate in relation to telecommuting: “If we really need the professional and he can only work via home-office, everything is negotiable” (TcMgr04, personal communication, November 16, 2009).

We identified three alternative scenarios that describe the hiring process of the twelve telecommuters interviewed: (1) a planned transfer to telecommuting after an initial period of adaptation within the organization; (2) the traditional employee later transferred to telecommuting; (3) directly hired as a telecommuter. The first option is based on an agreement between the employee and the organization that, after a period of time working at the company, the employee would have their labor contract changed to

home-office. It is important to point out that the date of this change of status is not communicated to the HR department, because the probation period can be extended or shortened. According to the HR Manager, “the recommendation is for a minimum of six months, but the manager has autonomy to decide if he/she will stay longer” (MgrHR, personal communication, October 26, 2009). This statement demonstrates that the flexibility endowed by telecommuting, mentioned by Rubio (2001), is also extended to the relationships between managers and the HR department.

It is important to point out that in the case of the telecommuters investigated here, all of them had their probation period reduced. There is only one situation in which the candidate was hired directly as a telecommuter without the probation period. This candidate was recommended by other employees and the organization had urgency in hiring someone with her specific knowledge.

In the cases where a traditional employee was later transferred to telecommuting, we discovered three reasons for this change: (1) at the time of hiring, the candidate did not know that telecommuting was an option; (2) at the time of hiring, the candidate was not interested in telecommuting; (3) the individual was already an employee of the organization.

All managers interviewed agree that they have the autonomy for decide to hire an employee directly to telecommuting. In the words of Manager 06: “we request a position from HR and the question of home-office is decided according to the necessity” (TcMgr06, personal communication, December 11, 2009). In agreement with the previous statement, Manager 04 emphasized that the only difference is in the content of the labor contract signed by the employee: “the difference is made clear [to HR] that the job opening will be home-office” (TcMgr, personal communication, November 16, 2009). The HR manager agrees with managers’ statements about their autonomy in hiring telecommuters: “[...] this question depends upon each individual manager. He has the greater power in the decision about the type of vacancy, because they know the particularities of how it must function” (TcMgr01, personal communication, October 26, 2009). The only restriction is that telecommuting has to be done exclusively within the Brazilian territory, so that any problems with labor laws are avoided.

In some cases, the option of telecommuting stems from a lack of physical space at the company. According to two Managers, this was one of the decisive factors for implementing telecommuting in the organization: “if we had the physical space and the employees were available on the labor market, I wouldn’t encourage home-office on my team, I prefer it when everyone is close together” (TcMgr01, personal communication, October 09, 2009).

Performance appraisal. The organization investigated does not use any particular methods to perform telecommuter performance appraisal. The appraisal methodology adopted by the company is applied to all employees, and it is the responsibility of each manager to create an effective system of communication for monitoring results, as demonstrated by this statement from the HR Manager: “In practice, the department [HR] has little participation; it is the responsibility of the manager, once he has authorized the home-office position, to establish a clear evaluation process” (MgrHR01, personal communication, October 26, 2009). In this respect, the HR Manager agrees with Ji et al. (2010) and Martinez et al. (2007), about the importance of the communication process for performance appraisal in telecommuting. It is reasonable to say that, within this organization, the manager has autonomy in regards to the performance appraisal of his/her subordinates: “the manager monitors the employee on



a day-to-day basis, and has the competence to evaluate if the work is being performed to expectations” (MgrHR01, personal communication, October 26, 2009).

The formal system of performance appraisal used in this organization is based on well-defined goals. In order to have a positive evaluation, two sets of goals must be reached by the employee: departmental and individual. The departmental goals are established by the top management in each area and everyone’s responsibility, whether or not he/she is a telecommuter. Individual goals are defined between the manager and each of his/her subordinates, normally in January. After twelve months, the annual appraisal performance is completed.

Even though there is a clear and detailed formal appraisal process, which is highly encouraged by HR managers in all organizational subsidiaries, we concluded that having a goal-based system with only a single annual review might not be very efficient in a highly dynamic sector such as IT. In the words of Telecommuter 01: “the environment is dynamic, it doesn’t work to adhere to the goals based upon [the reality] of January, as clients change all the time [...] the goals are not updated at the rate one hopes for” (Tel01, personal communication, December 11, 2009). There is, though, an informal appraisal process, based on the employee ability to adapt to the tasks at hand and respond fast to the organization’s emergent demands.

One important element that influences the effectiveness of the performance appraisal is the managers’ commitment to the telecommuting system. They understand that it is essential to be always available to their subordinates and to have contact with them on a daily basis. Usually this is done through the use of communication technologies which, depending on the case, might be the only channel of communication with the subordinate.

For Managers 01 and 05, a successful performance appraisal process may depend directly on the level of confidence a manager has in his/her subordinates, as well as the work methods adopted by the manager. This is exemplified in the statement: “I believe this question depends a lot on confidence because we don’t have much control over what each one does in their home” (TcMgr01, personal communication, October 09, 2009). In this aspect, the managers mentioned the particularity identified by Braga (2006): in telecommuting the question of control over the worker requires a change of perspective, from focusing on “work time” to “work results”.

**Training.** According to three interviewed Managers, training has been one of the organization’s primary initiatives towards having a qualified group of professionals to enable its growth strategy. This supports the vision Lawler III (2003) has about the importance of training to the organization performance. There are two different distance training platforms available to telecommuters in the organization. The first has the purpose of sharing the instructor’s computer screen in such a way that all of the instructor’s activities are able to be observed via the internet by the trainees. The second is the Distance Education (DE) platform, where different programs are available on the intranet and can be accessed by any employee. Many of these programs have videos, so that it is possible for trainees to both see and hear an instructor teaching.

In respect to on-site training, all telecommuters participate in the onboarding program. This is a mandatory training program directed at newly hired workers and intends to help them better understand corporate culture and strategy. In the opinion of the HR manager: “this training gets the relationship between employee and company to be on the same page” (MgrHR, personal communication, October 26, 2009). With the exception of the onboarding program, the majority of telecommuters interviewed never

had an on-site training experience. In the opinion of Manager 03, this type of training is expensive because of the lack of available physical space in the company. Another factor mentioned by Manager 02 is related to the company's primary activity: IT service supply. Because this is the company's main area, it is increasingly difficult to justify on-site training programs for its employees: "Most of the time we do not have how to justify the investments in training, because we are chosen by the customers for the reason that we already have the skills to supply the service" (TcMgr02, personal communication, November 17, 2009). When further questioned about this issue, the manager explained that each employee in her department is being indirectly paid by one or more customers. Telecommuters are hired based on specific customers' needs. At the moment that a department assumes responsibility for a customer's account, it is supposed that the required knowledge is already available at the organization.

In regard to Professional Certifications, there is an incentive given by some outsourcing areas in the organization for employees to obtain certifications in their functional skills. This is reported by Manager 03: "There is an incentive, because this improves our image towards the customer [...] if the entire team is certified we have a greater chance of taking over the accounts of our competitors" (TcMgr03, personal communication, October 22, 2009).

Compensation. There are no differences in compensation for traditional employees and telecommuters, the same as in performance appraisal. This situation was described by Barros and Silva (2010) in a study case of telework at Shell Brazil.

All of the aspects related to benefits, incentives, recognition awards, promotions, holidays, pension plans, and overtime are identical for both. The only difference is an exclusive reimbursement policy for telecommuters to afford the monthly costs of high-speed internet accessed at home. The organization has a specific labor contract for telecommuters; however, due to the confidentially agreement between the researchers and the organization, the analysis of the content of this contract cannot be disclosed.

According to the HR manager, the organization uses the traditional job-based pay, based on criteria such as (1) the types of work people do, (2) seniority, and (3) vertical promotions. The exceptions are the highest positions at the top management team that, in addition to the job-based pay, have a profit sharing plan and exclusive benefits (cost allowances, transportation allowances, insurance and retirement planning, accommodation allowance). There is also a different reward system for sales personnel, who earn additional bonuses, in order to encourage them to reach sales goals.

## 7. CONCLUSIONS

The purpose of the research reported in this paper is to identify guidelines for the implementation and management of telecommuting, in order to meet the demand for IT high-skilled professionals. In general, theoretical references indicate that there is a shortage of qualified IT professionals able to achieve the growth rates of IT organizations. Due to this shortage, the HRM department faces a challenge in attracting and retaining qualified professionals to meet organizational demands. From the theoretical references, we developed an empirical research based on a case study of a Brazilian subsidiary of a multinational organization that provides IT Services. In table 3 we propose guidelines for the implementation and management of telecommuting, particularly in organizations of the IT services segment. These guidelines are organized

in the following categories: (1) the analysis of labor laws; (2) the analysis of the internal environment; (3) decentralization of HRM practices; (4) staffing; (5) performance appraisal; (6) training; (7) the analysis of the external environment.

Table 3: Guidelines for the Implementation and Management of Telecommuting

Action	Guidelines
<b>Analysis of the Labor Laws</b>	Even though there is not difference between working at the company and working at a distance in the Brazilian labor laws, it is important to use a specific labor contract for telecommuters, which protects the company against legal issues. It is also necessary to take into account that telecommuting should be performed within the same territory, in order to avoid possible differences in labor laws.
<b>Internal Environment Analysis</b>	The internal environment analysis before the implementation of telecommuting should consider the organizational culture and technological infrastructure, in order to find an alignment between IT and HR strategies. First of all, the management team has to be open to change and able to develop a trustworthy relationship with telecommuters, giving them high levels of autonomy and accountability. If it is not the case, training programs are necessary before the telecommuting implementation takes place. Concerning the IT technological infrastructure, it is fundamental to forecast the costs involved in telecommunication resources and software required to home-office positions.
<b>Decentralization of HRM practices</b>	In telecommuting, HRM practices should be decentralized, giving the line managers great autonomy to make decisions particularly related to staffing and performance appraisal.
<b>Staffing</b>	The internal recruitment and the use of employee referrals as a recruitment technique is very efficient for telecommuters, due to the relevance of trustworthy relationships in this work arrangement. However, the external recruitment is essential to have access to potential candidates on the worldwide labor market. In the selective process, tools and technologies for distance communication are useful. However, they should not substitute personal interactions with the candidate, which contribute to establish a trustworthy relationship between the company, the worker, and his or her future colleagues.
<b>Performance Appraisal</b>	In a performance appraisal system for IT telecommuters, the goals should be revised in a quarterly basis due to the fast changes in this highly dynamic sector. Regarding the feedback process, it is particularly important to use distance communication tools for virtual teams where, quite often, it is difficult to have the opportunity for face-to-face, informal feedback.
<b>Training</b>	Training programs are especially important in technology companies that need a workforce whose skills and abilities need constant updating. Incentives to Professional Certifications are also important as they may attract customers and increase the functional competence of work teams. Another relevant aspect is that investments in training and development can increase confidence when a telecommuter recognizes that the company is investing in his/her professional development.
<b>External Environment Analysis</b>	The external environment analysis, before the implementation of telecommuting takes place, should take into account the market conditions, the customers' needs, and the labor pool. The first analysis should consider if the company operates in a highly dynamic sector and if it has customers in other countries. The interactions with customers should be positively affected by the implementation of telecommuting, such as the improvement in customer services because of the work flexible hours. Regarding the labor pool, telecommuting is specially indicated when the company is facing problems to meet the demand for highly skilled professionals in specific activities.

Source: Empirical Research.

Even though the guidelines presented here are based on an organization in the IT sector, which has successfully implemented telecommuting in Brazil since 2002, they should also be analyzed by organizations from other sectors that are planning to implement telecommuting or those facing problems to manage this work arrangement.

We conclude that if the HRM department thinks of telecommuting as a competitive advantage, this new way of working can contribute to the attraction and retention of high-skilled professionals. The concept that telecommuting is a benefit given by the organization with the purpose to retain high-skilled professionals in IT is shared by the majority of the employees interviewed. However, data showed that telecommuting is more effective to attract rather than retain these professionals. To understand better its effects in retaining telecommuters, it is important to make a longitudinal investigation that compare turnover rates of conventional employees with telecommuters over a long term period.

Another relevant conclusion is that in order to reach effective results, telecommuting should be based upon flexible and trustworthy relationships. These relationships should be part of a decentralization strategy of an organizational structure and assets. The implementation of telecommuting also requires a solid technological infrastructure. There is a need for online systems and the understanding that telecommuting is more than just a privilege given as a reward to certain employees. Telecommuting should be understood as being an essential element in the organizational strategy.

We believe that the telecommuting theme reflects an important topic of research that needs future investigation. In reference to the telecommuter, research about turnover rates and the particularities of telecommuting activities in different departments other than IT could be very useful. Regarding the organizational level, we suggest investigations focused on a deeper understanding of the strategic relationships between HRM and IT. It is also important to investigate other HRM practices related to telecommuting: job design, career development, health and safety, motivational issues, interpersonal relationships. Considering the challenges faced by the Brazilian IT service supply sector, along with the high levels of competition with foreigner IT companies, such studies should be seen as priorities by academics and practitioners.

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