# Telework and mobile working: analysis of its benefits and drawbacks

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Abstract: Telework and mobile work have been the object of much interest, but there has been little research on who practices it and what are the advantages. We evaluated the advantages and disadvantages for individuals in a large multinational in Belgium. In this organisation, telework is called 'mobile work', and includes not only telework at home but also work done at the client's office, in satellite offices, TeleCenters, etc. We observe that the technical possibility to do telework and gender are significantly related to the practice of mobile work, while age is not, contrarily to expectations. Also, while women are often associated with telework, it is men who are relatively more numerous in mobile work. They mention advantages such as less interference by colleagues, a gain in flexibility, personal and professional development, fewer trips and reduced time loss, better organisation of working hours and opportunities for a better allocation of time.

**Keywords:** telework; mobile work; advantages; benefits; workplace; working time; satisfaction; work-life; work-family; e-work.

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#### 1 Introduction

Telework, also known as work from home or mobile working, has attracted renewed attention due to the deployment of ICTs that make it possible to work wherever possible and practical (Kurland and Bailey, 1999) and as a new form of work organisation (Geary, 2003). Work-family balancing, as well as reduction in transportation time are amongst the interests put forward to explain the interest in telework and mobile work. The attraction is particularly important in countries confronted with urban congestion problems (Benchimol, 1994), and time-consuming travels to work, which often translate into work-family balancing problems (Duxbury and Higgins, 2003; Baines and Gelder, 2003). We observe an increase in the practice of telework and mobile working, or work from home, and while some research has been done on the management challenges related to this (Dambrin, 2004; Taskin and Tremblay, 2010) and impacts on role boundaries (Allen et al., 2003), the advantages and disadvantages involved in the choice of telework are not yet well known.

We have thus undertaken to evaluate the advantages and disadvantages for various individuals who participate in mobile work. Our investigation was conducted in a multinational established in Belgium. In this organisation, telework is designated under the term of 'mobile work', a programme that includes not only traditional telework at home but also work done in other places (at the client's, in satellite offices, TeleCenters, etc.). Following a short introduction on the definitions and scope of telework, this paper presents some elements on the workers who do telework or mobile work before it goes on to analyse the advantages and disadvantages of telework to try to determine who does telework and why. As mentioned above, much research has indicated that work-family balance is one of the main motives, as well as reduction in time spent in traffic, but little research has been done to test these elements on a wide scale. Much of the research is based on very small scale case studies and the interest of our research is to survey all these elements on the basis of an analysis of over 800 respondents. The factors likely to explain the advantages and rationale of telework or mobile work are thus identified.

## 2 Definition and scope of telework

Research on 'telework' can cover various realities (CEFRIO, 2001) and this explains why it is difficult to evaluate the exact scope or extent of telework in various countries or firms. Telework, mobile work, home working or e-work have different meanings and cover different realities, although these are often closely linked. Indeed, in some research, telework refers to work from home, which can be close to piecework, while for others; telework only includes the modern forms of work at home, based on the use of ICT. It is quite true that home working is not a new phenomenon *per se*, but it has grown and its configuration has changed, at least as much as its practitioners, especially in the trail of the internet and information technology (IT) revolution. This more 'modern' form of telework, with ICT, has developed mainly from the 1990s on in many European countries and in North America (Bailey and Kurland, 2002; Hafer, 1992; Huws et al., 1990; Hill et al., 2003, 1998).

Sullivan (2003) proposes that telework be defined according to the nature of the relevant work schemes as they are governed by transportation, ICTs, the work place, the extent or portion of distance work and the applicable terms and conditions. The home

working category is a work programme generally associated with self-employed workers, piecework employees (e.g., seamstresses) or salespeople operating from their home (telemarketing). The latter belong to home working and not so much to remote working or salaried telework.

For a number of researchers, especially Europeans, telework includes work in delocalised business centres or satellite offices manned by personnel of a same company, which is sometimes referred to as mobile work or e-work. Others also include mobile work carried out anywhere outside the office (sales persons, technicians, etc.), and TeleCenters, TeleTowns, TeleCottage (telecommuting) where employees are gathered to serve different employers. Some even consider that sales personnel and representatives are teleworkers because they are most often at clients' premises and sometimes work from their home, but mostly because there is not an office or desk for them at their employer's. Let us add that a special issue of the journal *New Technology, Work and Employment* (Vol. 18, No. 3) devoted to telework highlighted the fact that it is difficult to find a single definition and the various papers had different definitions and objects of analysis. From this general point of view, we could distinguish three forms of telework: work at home, work done in client's offices, and work in business centres or satellite offices (Tremblay et al., 2006).

The time dimension can also serve to differentiate various types of teleworkers, since the number of days spent out of the office leads to identifying full-time homeworkers and part-time or occasional homeworkers, the latter only working a few hours or a few days a week from home (Tremblay et al., 2006).

The absence of a common definition of telework makes it difficult to quantify this phenomenon (Bergum, 2007; Felstead and Jewson, 2000). Whatever the definition however, official data on teleworkers involved in formal telework programmes seem quite low, that is between 2% and 7% of the labour force, and 4% according to a previous survey in Canada (CEFRIO, 2001). However, the interest of individuals for telework is much higher, since some 29% of respondents in the Canadian survey had indicated that they would be interested in teleworking and thought it was possible to do so in their specific job (CEFRIO, 2001). Also, data indicate that a higher percentage of teleworkers work from home on an occasional and informal basis. Thus, the definitions and modes of telework are quite varied.

In our definition, telework covers different forms of working patterns at the residence or elsewhere. The larger the definition, the more teleworkers are accounted for in a given country or region. Numerous examples are exposed in the studies conducted by Felstead and Jewson (2000) and by CEFRIO (2001) and indeed knowledge concerning the scope of telework is difficult to assess because of the diversity of definitions and/or of the various assumptions in different investigations. Further, a number of investigations that provide data on the scope of telework or work from home were not designed originally for that purpose. Current definitions are at times blurred and do not always outline exactly what types of teleworkers are actually accounted for. Finally, 'mobile-working' is place- and time-dependent and obtaining figures on a national scale becomes even more complex. It is for this reason that we have limited our study to probing the issue in one organisation where this form of 'mobile-working' is established. Our goal is to determine which factors explain the actual practice where the organisation is open to this form of working. This is especially important since a number of organisations are not all that open to telework and few indeed, regardless of the country, establish and maintain formal telework programmes.<sup>1</sup>

The tendency toward work-pattern diversification, especially telework and more so 'mobile-working', seems to be intensifying, although this is certainly difficult to confirm due to the variety of circumstances and categories. Table 1 displays data outlining the scope of telework in Europe, but beyond this, it is particularly interesting to see how much individuals and organisations are interested in developing telework, in the last two columns. This indicates that telework or mobile work is surely something which will develop in coming years, although it remains to be seen in what forms and for what reasons precisely.

## 2.1 The scope of telework

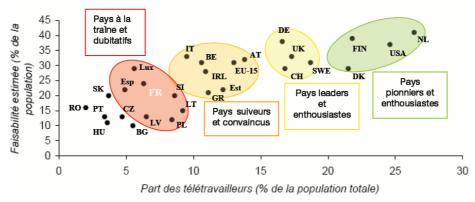
The percentage of formal telework actually remains rather low, at between 2% and 25% depending on the countries (CAS, 2009; Tremblay and Najem, 2010) as well as definition of telework and modes of calculation, while individuals and organisations have since long expressed a much higher interest in the work pattern (Table 1, c.f. Benchimol, 1994). However, it seems that informal telework and mobile-working patterns are on the rise and developing in many organisations (Tremblay and Najem, 2010; CAS, 2009; Taskin and Vendramin, 2004; CEFRIO, 2001).

**Table 1** Percentage of teleworkers in various European countries and interest of workers and organisations for telework.

Country	% teleworkers	Individual interested in telework	Organisations interested in developing telework
Great Britain	7.4%	43.5%	34.4%
France	7.0%	49.8%	39.3%
Germany	4.8%	40.5%	40.4%
Spain	3.6%	54.6%	29.6%
Italy	2.2%	45.4%	41.8%

Source: Benchimol (1994)

Figure 1 Position of OECD countries as regards telework in the years 2000 (see online version for colours)



Source: Statistical Indicators Benchmarking the Information Society and CAS (2009) A more recent study from the French Centre for Strategic Analysis (CAS, 2009) has developed a typology of countries based on the percentage of total population doing some form of telework and taking into account as well (left scale) the technical feasibility of telework (internet connections) in the country, distinguishing between the pioneers and enthusiasts (group 1 to the right, with Netherlands, USA, Finland and Den mark), the leaders-enthusiasts (Sweden, Switzerland, UK and Germany), the convinced followers (where Belgium, Austria, Ireland, Italy and Greece can be found, as well as the EU-15 average) and finally the Laggards (where France, Spain, Portugal and most of the Eastern European countries are).

## 2.2 Benefits and drawbacks of telework

While there has been some research on how to manage teleworkers (Taskin and Tremblay, 2010), and other on the evolution of telework, wondering whether it had failed or was taking on new forms (Bergum, 2007), there has been much less on the benefits and drawbacks of telework for individuals (after the pioneering work of Kurland and Bailey, 1999), which might explain why it is not as developed as had been thought when it started in the 80s, and this issue will be the main question addressed in this article.

Telework may of course represent a resource or a constraint, depending on the degree of autonomy of workers and the specific management context (Taskin and Tremblay, 2010; Taskin, 2007a). For example, working from home is sometimes presented as a possible solution to work-family balancing problems or, on the contrary, as a problem in terms of work-life balance because of challenges related to spatialisation (Taskin, 2007b; Halford, 2005; Harris, 2003) as well as blurring of boundaries between working and non-working time (Baines and Gelder, 2003; Duxbury and Higgins, 2003; Felstead and Jewson, 2000; Tremblay, 2002, 2003; Tremblay et al., 2006). While some research indicates that telework can be an option for work-family balancing (CEFRIO, 2001; Tremblay, 2002; Duxbury and Higgins, 2003), some authors also indicate that there are also risks of a stronger work-family conflict (Taskin and Vendramin, 2004; Felstead and Jewson, 2000) or of extended working hours which impact on family life (Teo et al., 1998; Chapman et al., 1995)

The majority of teleworkers consider that this form of work gives them more time to be with the family in the morning and evening, to be available for family obligations, to be able to prepare children for school or daycare in the morning and greet them when they return (even if some will continue working afterwards). Flexibility of hours of work is appreciated by many as a positive contribution to work-family balancing (CEFRIO, 2001; Tremblay, 2003) and many indicate that they can integrate some domestic tasks in the workday, thus freeing the evening or weekend (CEFRIO, 2001).

While flexibility in working hours and work-life balance is often reported as one of the main factors of interest for self-employment from home, the picture needs to be qualified, since there are also unwanted intrusions and blurring of boundaries between work and the rest of life (Tremblay et al., 2006; Boden, 1999). Christensen (1987) indicates that telework can create a work-family conflict because of the presence of work material in the house and because family members can interfere with work. A survey done in three North American companies revealed that workers who still have children at home (Al Bcherrawy, 1997) are less satisfied with working at home. Menzies (1997) highlights the fact that work is returning to the homes and thus, sometimes, becoming partly hidden, or 'shadow' work; and Gurstein (2001) indicates that there are blurred

boundaries that lead to tensions in trying to combine work and domestic activities in the same setting. Duxbury and Higgins (2003) also indicate that work to family interference increases when role demands conflict and that women are more likely than men to suffer from role overload. Dimitrova (2003) adds that one of the most important changes with telework is the important temporal and spatial flexibility but the author observes that the gains were not dramatic and that they were often countered by longer working hours. Other research (Tremblay, 2003, Felstead and Jewson, 2000) reports that there are minor adjustments at the beginning but that teleworkers manage to separate work and family life quite well over time. This is all the more so when teleworkers have a closed room from which to work (Felstead and Jewson, 2000).

Furthermore, many authors mention telework as a way of being more productive. It would increase effectiveness through fewer interruptions and disturbances, and favour better concentration (Taskin, 2006; Doucette, 1997). However, this increased productivity remains difficult to measure (Taskin, 2006). Also, the observations of Metzger and Cléach (2004) show that in the case of managers, telework is often considered as a solution to deal with work overload. So they conclude that telework is not always a voluntary choice of workers to improve their working conditions. It can also reflect work overload or stressful working conditions!

The absence of colleagues' interaction and feedback comes first among the negative aspects of telework, followed by isolation of the difficulty to limit one's working hours (Tremblay, 2001a, 2001b; CEFRIO, 2001). Actually, fewer men than women believe that working alone without colleagues scores first among the drawbacks associated with telework; also, people who work full-time at home are especially sensitive to this issue (Tremblay, 2001a, 2001b). Al Bcherrawy (1997) indicates that the feeling of isolation increases with age. Nevertheless, it appears that working more, or too much, would be a concern of executives and professionals (CEFRIO, 2001).

According to a 1999 study, teleworkers in Québec associated the following benefits identified with telework: a more flexible work-hours schedule; almost one third of all respondents, men and women, recognised this feature, and among them 44% of full-time home workers. The second important feature identified is the avoidance of commuting (one quarter of respondents). Other perceived advantages were: being more productive at work (10% men and 4% women); being able to spend more time with the family (8% women and 5% men), and to a lesser extent, savings on transportation and meals, peace of mind and quality of life (Tremblay, 2001a, 2001b). The avoidance of commuting is also underlined by Harpaz (2002), Kurland and Bailey (1999), as well as Teo et al. (1998).

In short, the basic logic behind telework can be very different, even contradictory. Telework can be interpreted simultaneously as a constraint or as a resource for workers and the following pages will try to entangle these various elements, with the results of a large-scale survey, while most research on telework is based on case studies.

## 3 Methodology

Our research is based on a survey-based investigation of a large ICT organisation in Belgium. In view of Europe's 2002 cross-industry Framework Agreement on Telework which invites countries, businesses and unions to develop telework practices, it is interesting to see how telework or mobile work actually fares in one specific organisation, in Belgium. The research was done in 2005 and dealt with mobile working, that is a wider concept than telework since it includes work at the client's site, in TeleCenters and the like; mobile work may be seen as the more modern form of telework, since it includes work from home, but also work in other places. Mobile workers who do not work full time from home are usually permitted to work from home occasionnally and not to always pass by the main office (often in a downtown location, difficult to access).

The rate of participation in the 'mobile working survey' in the organisation studied was 35.79% of the entire company – including management and staff (1,343 replies out of 3,752 surveyed). The table below displays the rate of response for each of the four groups involved in the survey. Individuals were either classified in the 'teleworker' or 'deskbound' category on the basis of the availability to them of an internet connection provided by the organisation, although some deskbound actually can do mobile work, in the sense that they can work in different places even if they do not have internet connection. Collaborators are salaried employees<sup>2</sup> and coaches have management responsibilities<sup>3</sup>.

 Table 2
 Surveyed population

		Replies	Individuals	Participation rate
Groups	Mobile collaborators with internet (Gr. 1)	827	2,102	39.34
iorms)	Mobile coaches with internet (Gr. 2)	111	319	34.80
	Collaborators without internet (Gr. 3)	385	1,263	30.48
	Coaches without internet (Gr. 4)	19	68	27.94

Data concerning the earliest participation in 'mobile working' show that the practice started to gain grounds substantially beginning in 2000 and that few employees had been involved in this work pattern before 1995. The trend gained momentum in 2000 and today 64% of the employees are involved in the process.

We observed that about a quarter of the respondents work in the core of Brussels, that 42% are based in Huizigen and another 22% work in Herentals at the organisation's main office on the outskirts of the agglomeration; that location was chosen to steer clear of traffic congestion problems. It is also interesting to note that 28% do not have an assigned desk or workstation at one of the employer's sites. The respondents are men in a proportion of 78%; a majority (73%) of respondents is between 25 and 44 years of age and 66% are married. Finally, 68% of the respondents are parents with children.

#### 4 Research results

There is a dearth of information on the technical feasibility of teleworking, whether the functions performed by the individuals would allow a change in that direction and whether the organisation provides employees with the required means. To begin with, it is interesting to compare two groups of individuals who have replied differently to the central question in our investigation:

"In your organisation, do you participate in mobile working in any form whether from your home, at clients' offices, in other main offices or satellite offices?"

The actual performance of at least one form of mobile working is significantly constrained (p < .0001) by the technical possibility or opportunity to do so (in this case the availability of an Internet connection provided by the organisation). Table 3 shows the relative frequency and percentage of participation in mobile working (at least in one form: that is from home, at clients' offices, in other main offices or satellite offices) by individuals who have the possibility to do so and by collaborators who do not have a distant connection. Percentages are established for the workers who have the possibility to perform telework and for those who have not. It is clear from these figures that the technical possibility (the availability of equipment and connection) determines actual participation to a great extent although it does not constrain it entirely. Indeed a significant percentage of persons who are not provided the equipment (24.5%) nevertheless actually perform *mobile working* (with their own equipment or simply because performing their mobile functions does not require the use of such equipment).

**Table 3** Frequencies associated with *technical possibility* and the *actual performance* of mobile working

	Mobile working practice				
Technical possibility	Yes		No		
	Frequency	Percentage	Frequency	Percentage	
Yes	771	82.20	167	17.80	
No	99	24.50	305	75.50	

The performance of at least one form of mobile working is significantly contingent upon the hierarchical level or reporting level (p < .0001). Table 4 shows the frequencies for each of the groups.

**Table 4** Frequencies associated with hierarchical level and the actual practice of *mobile working* 

	Mobile working practice				
Hierarchical level	Yes		No		
	Frequency	Percentage	Frequency	Percentage	
Collaborator	765	63.12	447	36.88	
Coach	105	80.77	25	19.23	

As much research on telework has indicated that telework is a good option for work-family balancing, we were interested in seeing whether gender had an influence on participation in telework and mobile work. We observed that the practice of at least one form of mobile working is significantly determined by gender (p < .0001). However, the relation is not as expected, since definitely more men than women actually perform mobile work. Table 5 displays for both men and women the frequency and percentage of their participation in at least one form of *mobile working*. We can see clearly that a smaller percentage of women participate in mobile working; in the organisation, male workers outnumber female workers, but even taking this into account, the percentage of men participating in mobile working is higher than that of women doing so. Over 70% of

male workers perform at least one form or another of mobile working while the proportion of women who do mobile working is about 44%. This may be explained by the fact that women are concentrated in a number of specific functions (secretarial and clerical, among others) in which mobile working is less viable, and by the fact that men are more often employed in management, computers and other technical functions. This is contrary to what is expected, since it is usually proposed that since women usually assume more family responsibilities they would be the ones most interested in participating in telework or mobile work. Also, secretarial work can be done from home, as was observed in other studies (CEFRIO, 2001).

 Table 5
 Frequency of mobile working according to gender

		Mobile work	king practice		
Gender	Yes		No		
	Frequency	Percentage	Frequency	Percentage	
Men	742	70.60	309	29.40	
Women	128	43.99	163	56.01	

Some organisations prefer that individuals acquire a certain knowledge of the corporation before being allowed to perform telework and this would explain why older workers or those who have more experience in the firm are favoured for access to telework and mobile work (CEFRIO, 2001). In the case at hand, we observe that mobile working in any form is independent of the age class variables (p = 0.4366); this is probably due to the fact that this is an information systems and business services company and that telework is not so unusual in this sector, where qualified and experienced workers are younger. Table 6 shows the age distribution relative to mobile working when these variables are paired.

**Table 6** Age distribution of *mobile working* 

		Mobile working practice		
		Yes	No	
Age	< 25	0.52	0.75	
	25-34	20.94	11.70	
	35-44	27.79	13.79	
	45-54	12.00	7.60	
	> 55	3.58	1.34	

## 5 Satisfaction and dissatisfaction

There is little data on the rate of satisfaction or dissatisfaction with the new work patterns such as telework or mobile working. Table 7 displays the average scores for importance and for satisfaction associated to the different contributions of mobile working for the teleworkers (groups 1 and 2). The satisfaction quality index (SQI) indicators are also shown.<sup>5</sup>

We observe, among the dominant advantages, such issues as having less interference by colleagues, a gain in work schedule flexibility, personal and professional development and enhancement, fewer trips and therefore reduced loss of time, better organisation of working hours as well as opportunities for a better allocation of time between professional life and private, family or personal responsibilities. These results are very interesting since the data was collected from a large sample of respondents (870).

 Table 7
 Sources of satisfaction associated to mobile working

	Importance (average)	Satisfaction (average)	SQI
Opportunity to combine professional travel and stops for personal reasons	2.05	2.48	110.75
New lifestyle	2.34	2.59	106.25
Reduced colleague interference	3.10	3.18	102
Meet colleagues hitherto unknown	1.98	2.02	101
New communication skills with colleagues	2.33	2.31	99.5
Feeling of achievement in one's various social roles	2.47	2.44	99.25
New quality of life	2.92	2.80	97
Reduction in professional costs	2.72	2.59	96.75
Work schedule flexibility	3.33	3.19	96.5
More time to my own to do what I please	2.63	2.46	95.75
Stronger loyalty to the firm	2.46	2.29	95.75
More receptive to colleagues who have difficulties	2.33	2.16	95.75
Teamwork activation, stimulation	2.22	2.04	95.5
Personal development	3.45	3.25	95
Professional growth, enhancement	3.35	3.15	95
Less professional commuting	3.25	3.05	95
More time for friends	2.56	2.34	94.5
Better sequencing of daily professional trips	3.41	3.13	93
Better organisation of working time	3.84	3.48	91
Professional efficiency	4.01	3.56	88.75
Reduced loss of time in travel	3.93	3.42	87.25
Reduced stress	3.47	2.87	85

 Table 8
 Sources of dissatisfaction involved in mobile working

	Importance (average)	Dissatisfaction (average)	DI
Costly to develop office/working space at home	2.26	2.04	94.5
New professional expenses	2.19	1.91	93
Had to relocate in order to set up an office at home	1.84	1.55	92.75
Absence of visibility in the eyes of management	2.57	2.27	92.5
More work	2.60	2.28	92
More pressure	2.54	2.21	91.75
Loss of loyalty to the firm	2.36	2.01	91.25
More tired at the end of the day	2.41	2.04	90.75

 Table 8
 Sources of dissatisfaction involved in mobile working (continued)

	Importance (average)	Dissatisfaction (average)	DI
Must rely on oneself to solve professional problems	2.52	2.13	90.25
Conflicts with the manager	2.14	1.75	90.25
More professional travel	2.14	1.74	90
Barrier to teamwork	2.70	2.29	89.75
Social isolation	2.84	2.38	88.5
Professional/family life confusion	2.83	2.36	88.25
Loss of team spirit	2.97	2.41	86

Table 8 shows the average scores for importance and for dissatisfaction associated to some downside aspects of *mobile working* according to the teleworkers. The dissatisfaction index (DI) is also displayed. Professional and family life confusion, as well as social isolation and loss of team spirit appear important sources of dissatisfaction.

#### 6 Conclusions

This study conducted in a large organisation describes the various characteristics that can explain that individuals participate in telework or mobile work, as it is called in this organisation, but more importantly the advantages and disadvantages they see in this form of work. The technical possibility to do telework and gender are significantly related to the practice of mobile work, while age is not. As concerns gender, contrarily to what might be expected since some have presented telework as a way to better manage work and family responsibilities, it is men who are relatively more numerous in mobile work. It therefore seems that telework presents a mixed picture on the issue of work-family balance, as it may sometimes be seen as an intrusion into personal or family life while others may see it as a work-family balance option.

In the wake of individuals' satisfaction with and interest in the various forms of mobile work, it may be useful for firms to consider developing mobile work, but particularly taking into account the advantages and disadvantages that workers see in these arrangements. We observe, among the dominant advantages, such issues as having less interference by colleagues, a gain in work schedule flexibility, personal and professional development and enhancement, fewer trips and therefore reduced loss of time, better organisation of working hours as well as opportunities for a better allocation of time between professional life and private, family or personal responsibilities.

The limitations of the research are due to the fact that it was conducted within a single organisation. It is nevertheless useful to document the diversity of practices within a single large organisation, especially since access to such organisations is often difficult to secure for in-depth surveys on work conditions and especially on telework, which is often more informal than formal in many organisations, making it difficult for researchers to access the organisations for investigation. Firms have often refused access saying it will create demands for a formal programme... Also, given the important number of respondents and the diversity of professional categories included here, this partly compensates the fact that a single organisation is studied. Further research should, of

course, be conducted into the diversity of telework and mobile work formats, in a larger number of work settings. This research nevertheless lays the groundwork for future in-depth inquiries into the various work settings encountered in mobile work, and the interest of different professional categories for different types of work settings. This analysis of the various factors related to the practice of telework had not been done in such detail previously and this is in our view an interesting element brought forward by this research.

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#### **Notes**

- 1 Recently, our research on this issue has confirmed this situation. It has been very difficult to find organisations with formal telework employment programs. Here, it is within a collaboration with Belgium that we are given the opportunity to meaningfully examine 'mobile-working' practice in a large international organisation.
- 2 Employees are subdivided in terms of their functions: administrative function warehousing or storage function studies/computer function secretarial and clerical function sales function technical function commercial function (figure ...).
- 3 Coaches are subdivided in terms of their functions: project-management management business 'operations' business 'enabling' experts (figure ...).
- 4 Association tests were carried out between this variable and other explanatory variables. For each test, we hypothesised that the variables paired were independent.
- SQI stands for satisfaction quality index used in the organisation where the study was conducted. The satisfaction quality index is generated as follows:

$$\{[(average\ satisfaction-average\ significance)+(n-1)]/(n-1)\}*100$$

where n is the number of categories in the proposed scale. In the case at hand, there are five categories.