Chapter 3
Telecommuting: What? Why? When? and How?

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Abstract Given changing work demands, organizations are increasingly reliant on the use of telecommuting. The overarching goal of this chapter is to provide organizations with evidence-based actionable tools for effective telecommuting arrangements. Although telecommuting has grown over the past several decades, scholars and practitioners have not yet developed a comprehensive understanding of *what* telecommuting is, *why* it should (and should not) be used, *when* it is appropriate, and *how* it can be successfully implemented. Therefore, the purpose of this chapter is to review (1) the concept of telecommuting and its various forms (*what?*), (2) the consequences of telecommuting, both positive and negative for employees and organizations (*why?*), (3) antecedents of effective telecommuting (*when?*), and (4) recommendations for best practices (*how?*). We conclude the chapter with considerations for the future of telecommuting.

Keywords Telecommuting • Telework • Teleworking • ICT • Best practices • Autonomy • Work-life balance • Work-family balance

The CEO of Yahoo! Marissa Mayer created an uproar in 2013 when she banned home-based work, forcing all employees to return to the office. Mayer suggested that people are "…more collaborative and innovate when they're together [and that] the best ideas come from pulling two different ideas together" (c.f., Tkaczyk 2013). Mayer's move was counter to prevailing trends, given the increase in the number of companies offering telecommuting (SHRM 2013). Telecommuting has been accepted by many organizations because it has directly lead to increased productivity among employees (e.g., Kurland and Bailey 1999). It can also reduce employer costs, promote flexibility and autonomy, and improve work–life balance.

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Yet, some organizations remain hesitant to embrace telecommuting. In some cases, this may be due to lingering concerns surrounding accountability, isolation, collaboration, and control. We suggest a lack of understanding is the main reason some organizations approach telecommuting with trepidation. There are many different types of telecommuting arrangements, and not all approaches are appropriate for all circumstances. Therefore, given the prevalence of information and communication technology (ICT) use around the globe, it is important to explore *what* telecommuting is, *why* it is effective (and sometimes ineffective), and *when* it is most appropriate. The purpose of this chapter is therefore to explore telework and provide actionable recommendations (*how?*) for managers and employees who wish to implement telecommuting as a viable workplace arrangement.

3.1 *What* Is Telecommuting?

3.1.1 Introduction

Telework[1] has been broadly characterized as an arrangement in which employees perform at least part of their responsibilities outside the confines of their organization's physical boundaries using various forms of ICTs to maintain a virtual presence (e.g., Fay and Kline 2012). In some form, telecommuting has been around for well over a century. However, it wasn't until the height of the oil embargo in the 1970s that Jack Nilles coined the term *telecommuting* (Nilles 1975). In the ensuing years, telecommuting has become increasingly commonplace in organizations, and this is due in large part to the rapid evolution of ICTs that facilitate remote collaboration (e.g., personal computers, Internet, mobile phones, fax, videoconferencing), permitting employees to fulfill their work-related obligations from just about anywhere.

The percent of individuals who telework is substantial. In 2010, 20 % of American employees reported working remotely for an entire day at least once a month (World at Work 2011). A survey conducted by Robert Half Singapore (2012) reported that 79 % of companies across 13 countries provide telecommuting opportunities in order to improve recruitment and retention (Koh et al. 2013). A recent Reuters poll (Reaney 2012) indicated that approximately one in five workers telecommute, with the highest prevalence in the Middle East, Latin America, and Asia. While telecommuting has clearly been embraced in some countries, international adoption of telework policies is not uniform. European countries such as Sweden, France, Germany, Greece, Italy, Portugal, and Spain report using telework options far less (e.g., Peters and den Dulk 2003; Reaney 2012) than their international partners. The acceptance and prevalence of telecommuting may vary in part due to a number of unsubstantiated assumptions and fears concerning telecommuting adoption, as well as the

[1] Given their use in the literature, we use the terms *telecommuting* and *telework* interchangeably.

plethora of definitions, frameworks, and theoretical approaches used to conceptualize telecommuting. Therefore, we begin by discussing: *what is telecommuting?*

3.1.2 Defining Telecommuting

In the broadest sense, *telecommuting*, also known as *telework*, can be defined as working from anywhere at any time (Kurland and Bailey 1999), or completing work beyond the confines of a traditional office setting (e.g., Coenen and Kok 2014). Unfortunately, however, it is not that simple—there is no universally accepted definition of telework, and there are many inconsistencies in the literature concerning what qualifies as telework. Given that the concept of telework has evolved tremendously in recent years and modern telework relies heavily on ICTs, it is necessary to update the definition to match current and future trends and technology. Therefore, in this section, we first discuss some of the conflicts in the literature with regard to telecommuting terminology, criteria, and arrangements. Then, in consideration of these conflicts, we offer an updated and comprehensive definition of telework.

3.1.2.1 Terminology

Over the years, telework has been referred to as telecommuting, teleworking, remote work, virtual work, home-work, distance work, distributed work, and flexible work (e.g., Lautsch et al. 2009; Morganson et al. 2010). Multiple terms can misrepresent the nature of telework. For instance, telework typically involves an absence from the traditional office for some days during the week, whereas "virtual workers" are primarily away from the traditional office full time (e.g., Golden and Fromen 2011). Similarly, it should not be assumed that telework is always "flexible work." While working from a location outside of the central office may permit some flexibility to employees, telework arrangements can vary in terms of structure and flexibility. As a final example, "home-work" is often used synonymously with telework. While a majority of teleworkers do indeed work from home, it should not be assumed.

Despite some arguable differences among terms, they share in common more than they diverge upon. Namely, they all refer to work that (1) occurs outside the traditional workplace and (2) uses ICT equipment to maintain some level of presence. Given this, we use the terms *telework*, *telecommuting*, and *teleworking* interchangeably, but caution readers to avoid using these terms synonymously with home-workers, virtual workers, and flexi-workers.

3.1.2.2 Telework Criteria

In addition to the terminology, there is some disagreement as to what qualifies as telecommuting. Broadly speaking, some scholars argue that telework occurs whenever an employee is paid for work completed at a secondary location (e.g., Mariani

2000). Others are more specific in duration, indicating that to be considered a teleworker, employees must work outside the office for at least *1 full day per workweek* (e.g., Anderson et al. 2001) or *1 full day per month* (World at Work 2011). Similarly, some authors suggest that to be considered a telecommuter, one must be an organizational employee (e.g., Hartman et al. 1991) and exclude self-employed persons (e.g., Gibson et al. 2002), freelancers (Hartig et al. 2007), and independent contractors (Gajendran and Harrison 2007). Conversely, other scholars include several nontraditional employees in the category of telecommuters, such as individual entrepreneurs, freelancers, and mobile workers (e.g., Fetzner 2003). Time spent traveling has been included in some definitions of telework (e.g., Bricout 2004; Coenen and Kok 2014); while others suggest that work that is regularly performed outside of the office is not considered telework (e.g., Gajendran and Harrison 2007).

Thus, *what* is considered telework is not well defined. This is further complicated by the fact that those who classify themselves as non-telecommuters often report bringing work home or working at other locations, at least some of the time (e.g., Hartig et al. 2007). However, the literature is rather consistent in that most individuals who identify as telecommuters do so part time (e.g., Bailey and Kurland 2002), and most companies initiate telework on a part-time basis (e.g., Standen et al. 1999). Nevertheless, telecommuting is a multifaceted approach to meeting demands of the modern workplace, and as such, there are a number of different types of telecommuting arrangements to meet various demands.

3.1.2.3 Telework Arrangements

As discussed thus far, the field of telework is fragmented. Further, many frameworks have been proposed to organize research surrounding telework and examine various telework arrangements, each of which suggests a set of "core" components. A list of existing frameworks is shown in Table 3.1. Some of the first and more recent models have limited the definition of a teleworker to the location of the worker, while others have also outlined the hours, contract, and schedule of the employee.

With so many frameworks available, the field lacks a unified approach to telework. There are several commonalities among the frameworks: for example, most reference the proportion and location of telework. There are also many important factors unique to each framework: for example, autonomy is a critical consideration in any telework arrangement, yet it is only mentioned by Feldman and Gainey. Given that none of these can serve as a comprehensive framework, we suggest it may be appropriate to create a new model that combines all of these components.

3.1.3 An Updated Framework and Definition

The aforementioned frameworks attempt to take into account certain aspects of telework, such as *where* the work is being conducted, or the ability for workers to "mix and match" telecommuting arrangements. Based on our experience and research,

Table 3.1 Prior models of telework

	Feldman and Gainey (1997)	Kurland and Bailey (1999)	Peters et al. (2004)	Taskin and Devos (2005)	Garrett and Danziger (2007)	Pearce (2009)	Golden (2012)
Proportion	Full time			Full time	Full time	Full time	
	Part time			Part time	Part time	Part time	
Location	Home based	Home based	Home based		Home based	Home based	
	Satellite	Satellite	Multi-site/ Fully mobile		Satellite	Work center	
		Work center			Fully mobile	Fully mobile	
		Fully mobile					
Schedule	Fixed						During work
	Flexible						After work
Autonomy	Voluntary						
	Job mandated						
Technology					Importance of ICT		
Contract status			Regular employee		Regular employee		
			Contract worker		Contract worker		

we have consolidated and clarified the existing frameworks from Table 3.1 into a comprehensive framework in Table 3.2. Employees can telework on a part-time basis or a full-time basis and from home or satellite offices (or from cars, trains, planes, or coffee shops!). Some telecommuting arrangements are flexible, whereas others are more rigid. Some jobs and projects are better suited for certain forms of telework than others, and hence there is no clear definition of telecommuting. We suggest several factors, and their considerations can help organize these perspectives and provide organizations with a way to think about factors surrounding telework.

Given that telecommuting can vary widely in terms of proportion, location, schedule, collaboration, synchrony, and autonomy, we believe that a telecommuter is any employee working outside of the main office on at least one occasion each month, and using information and communication technologies (computer and network hardware and software, cellular devices, satellite systems, etc.) to complete work-related responsibilities. Given these points, we forward an updated and comprehensive definition of telework:

Table 3.2 An updated model of factors to consider when defining telework

Factor	Considerations
Proportion: Part to full time	*Part time teleworkers:* periodically perform job functions outside the established base of operations *Full time teleworkers:* usually perform most or all job functions outside the established base of operations
Location: Fixed to mobile	*Fixed location:* employee predominantly works at one off -site location (e.g., home) *Mobile location:* employee can/does work in multiple locations outside the established base of operations *Note: field -based assignments would not be considered telework – they reflect a mobile assignment away from the established base of operations.*
Schedule: Fixed to varied	*Fixed schedule:* employee has set days/hours that job functions will be performed away from the established base of operations *Varied schedule:* days/hours that job functions are performed away from the established base of operations vary
Collaboration: Low to high	*Low collaboration:* employees require low interaction with co-workers at the established base of operations *High collaboration:* employees require high interaction with co-workers at the established base of operations
Synchrony: Serial to concurrent	*Serial:* employees′ interdependent tasks proceed *sequentially* (e.g., e-mail, fax) *Concurrent:* employees′ interdependent tasks proceed in *unison* (e.g., conference call, video conference)
Autonomy: Low to high	*Low autonomy:* employees have low choice over whether, when, and how to telework *High autonomy:* employees have high choice over whether, when, and how to telework

Note: These factors should be viewed as continua. For example, there are varying degrees of the extent to which telework occurs part-time or full-time, and this can also vary depending on the day or work being conducted. Similarly, the extent to which the location telework occurs at can vary (and likely will, as communication and collaboration technology continues to develop). Further, these are not fixed and likely vary both within employee over time and between various employees as organizational needs dictate

> Telework refers to the proportion of job function(s) performed by an employee away from both other employees and the organization's established physical base of operations, using various forms of information and communication technologies to maintain a virtual presence. Telework typically does not refer to: travelling assignments, work at multiple sites, on-site customer work, a total lack of virtual presence, or remote assignments including more than one employee. Telework can be described in terms of six continua: proportion, location, schedule, collaboration, synchrony, and autonomy.

3.2 *Why* (and *Why Not*) Institute Telework Programs?

A rise in dual-income households and unique child- and elder-care responsibilities, coupled with a competitive economy, require that organizations around the globe remove the physical and time-related boundaries surrounding work. Rapid

Table 3.3 Promises and pitfalls of telework

	Promises	Pitfalls
Society	Environmentally friendly	
	Reduce infrastructure stress	
	Global collaboration	
	Improved disaster preparedness	
	Better for disabled individuals	
Organizations	Reduced overhead	Different (albeit usually lower) expenses
	Increased margins	Increased ICT demands
	Lower turnover	Security issues
	Greater talent pool	May not work for some tasks
	Inexpensive, desirable benefit	Some loss of control
Individuals	Save resources	Added family → work conflict
	Living choice flexibility	Working on vacation
	Dependent care flexibility	Difficult to "unplug" from work
	Higher autonomy	Social and professional Isolation
	Higher job satisfaction	Missed opportunities
	Lower stress	
	Lowered work-family conflict	

developments in communication and information technology have enabled organizations to meet employee demands for flexibility and mobility (e.g., Coenen and Kok 2014; Lundberg and Lindfors 2002). Removing these boundaries also allows organizations to cast a wider net when recruiting and retaining top employees. However, telecommuting can introduce unique challenges that must be considered. For example, telecommuting is posited to enhance perceived autonomy and reduce work–life conflict, which should enhance job-related attitudes; but there is a fear that telecommuting damages work networks and career opportunities, hindering relationships in the social domain. In the following section, we will explore some of the benefits of telecommuting and walk through potential pitfalls (which are summarized in Table 3.3). It is not the intent of this chapter to determine whether telecommuting is *good or bad* for individuals and organizations, but rather to consider the realm of potential advantages and disadvantages of telework with the increasing use of ICTs.

3.2.1 Why Telecommute?

Following the lead of Kurland and Bailey (1999), we consider the benefits of telecommuting for society, for the organization, and for the individual.

3.2.1.1 Society

At the broadest level, telecommuting is good for society because it helps organizations support green initiatives and corporate social responsibility standards. Telecommuting has been credited as a potential way to slow global warming, by reducing commuters on the road, office energy, office construction, urban heating, business travel, and even paper usage (Global Workplace Analytics 2013). In the United States alone, it is estimated that the commuting workforce consumes 67 billion gallons of fuel annually. Telecommuting can reduce this by two billion while reducing vehicle miles traveled by 35 billion (Green 2013). Telecommuting lowers traffic congestion, auto accidents, and parking issues, especially in major cities (e.g., Kurland and Bailey 1999; Pearce 2009). Likewise, telework can reduce the pressure on transportation infrastructure, with reports that half-time telework alone can reduce road wear and tear by 112 billion miles a year in the United States (Global Workplace Analytics 2013).

Besides the daily commute, ICTs make it possible for employees to collaborate around the globe, reducing the added pollution and burden associated with business travel. It is also possible that decentralizing the workforce is useful for disaster preparedness. Three quarters of teleworkers believe they could continue to work in the face of a disaster, such as 9/11, compared with just above a quarter of non-teleworkers (Global Workplace Analytics 2013).

Telecommuting is also beneficial to society as it can better accommodate persons with disabilities (Anderson et al. 2001; Baker et al. 2006b). By creating a barrier-free workplace that removes space and time constraints, individuals with significant impairment can be given the opportunity to make a valuable contribution to society. Telecommuting also provides improved opportunities for balancing work with dependent-care responsibilities (e.g., Illegems and Verbeke 2004), which can be argued as good for society as a whole.

3.2.1.2 Organizations

Perhaps the most obvious benefit of telecommuting for organizations is the reduction in costs and increased profits. For instance, telework reduces overhead and real estate costs for most organizations (e.g., AT&T 1997), as well as lowers operating costs (Baker et al. 2006a, b). Furthermore, organizations can substantially profit from implementing telecommuting programs via increased productivity and retention and decreased number of sick days and absenteeism (e.g., Kurland and Bailey 1999). AT&T reported a $65 million increase in productivity and a net gain of $100 million when considering real estate savings from implementing telecommuting. Researchers have also reported a number of positive organizational outcomes resulting from telecommuting, such as increases in performance and organizational commitment and decreases in turnover intentions (e.g., Gajendran and Harrison 2007; Golden 2006).

In addition, without any geographic restrictions, telecommuting permits more flexibility in staffing of employees by providing a wider talent pool (Kurland and Bailey 1999). In many occupations, there is a shortage of skilled workers, and telework aids in the recruitment and retention of top talent while reducing staff redundancy (e.g., Abdel-Wahab 2007; Illegems and Verbeke 2004). Not only are organizations able to hire talented employees from around the globe, but offering telecommuting options is important because many prospective employees view telecommuting and flexible hours as an important workplace benefit. For instance, over 70 % of survey employees say the ability to telecommute is somewhat extremely important in choosing their next job (Global Workplace Analytics 2013).

3.2.1.3 Individual

Most research has focused on the implications of telecommuting for the individual. Reducing travel time and costs have been implicated as major benefits of telecommuting for employees (e.g., Kurland and Bailey 1999). Employees can save money on fuel, maintenance, parking, clothes, dependent care, and by living in locations where cost of living is lower. Also, the time and energy required to commute to work can be reallocated to workplace tasks when employees telecommute, benefiting both employees and employers.

Additionally, telecommuting allows employees more control over how and when work is completed. When individuals perceive more autonomy over their work, they tend to be more satisfied, less stressed, and have higher performance and creativity than when they are controlled (e.g., Deci and Ryan 2000). Given the rise in dual-income households and the number of working adults with both child- and elder-care responsibilities, flexible work arrangements may be more important than ever before. A number of studies support this, citing a positive relationship between telecommuting and perceptions of autonomy (e.g., Gajendran and Harrison 2007; Hornung and Glaser 2009; Illegems and Verbeke 2004; Kurland and Bailey 1999). Thus, it is no surprise that autonomy has been identified as one of the primary reasons for why telecommuting is desired by employees.

A number of studies have also demonstrated that telecommuting is related to increased job satisfaction and decreased stress and work–family conflict. For instance, Gajendran and Harrison's (2007) meta-analysis reported a positive relationship between telecommuting and job satisfaction and negative relationships between telecommuting and work–family conflict and telecommuting and stress. This is consistent with other reports indicating that telecommuting reduces stress, work–family conflict (e.g., Lautsch et al. 2009; Nicklin et al. 2009), and risks to physical health (e.g., Lundberg and Lindfors 2002). However, employees should be cautious that while telecommuting may lead to a reduction in work-to-family conflict, it may lead to an increase in family-to-work conflict.

3.2.2 Why Not Telecommute?

While telecommuting is associated with a number of positive outcomes, there are certain challenges faced by organizations and individuals that should be considered. For instance, as previously mentioned, telecommuting may be extremely beneficial for working parents trying to balance competing demands. Yet, removing the formal structure of the workplace may make it difficult to create boundaries around work and home life. Therefore, any organization or individual considering adopting telecommuting should not enter into the arrangement blindly and should carefully consider the following concerns.

3.2.2.1 Organizational Challenges

Many organizations are reluctant to embrace telecommuting because of additional start-up costs and extra expenditures associated with implementing and maintaining telework arrangements (e.g., Baker et al. 2006a, b; Illegems and Verbeke 2004), although additional telework costs are frequently offset by increased savings and productivity. Teleworkers require a variety of ICTs such as computers, software, cell phones, printers, fax machines, cameras, and other communication software (e.g., subscriptions to virtual meeting technology). It was estimated by the U.S. General Service Administration (GSA) that the average first-year cost per teleworker was $1,000 in 2006, which is likely higher today (Global Workplace Analytics 2013). Another very practical concern raised in the literature is over potential security breaches and the protection of company materials (e.g., Abdel-Wahab 2007; Pearce 2009). However, security training can help minimize such issues.

One of the most common concerns cited in the literature from an organizational perspective is management's fear of losing control over employee behavior (e.g., Kurland and Bailey 1999). With employees at a distance, managers usually cannot directly observe employees during the workday. While most employers indicate trusting their employees, there is still a preference for being able to physically observe what workers are actually doing (Global Workplace Analytics 2013). By not having direct in-person contact with subordinates, management may have difficulties with performance monitoring, performance management, schedule maintenance, and work coordination (e.g., Kurland and Bailey 1999). This could potentially lead to additional work for supervisors, as managers may have to adjust work assignments, meetings, and performance reviews to accommodate teleworkers (Olson 1988). However, the Boston College Center for Work and Family (2000) reports that 75 % of managers experienced no differences in workload.

Finally, it should be noted that while most studies show that telecommuting leads to higher levels of productivity in organizations, this finding is not universal. Some research has actually reported a decrease in productivity associated with telework arrangements (Duxbury and Higgins 2002; Hamilton 2002; Hartman et al. 1991).

Thus, the impetus is on organizations to ensure that telecommuting is appropriate for a given task in a given set of circumstances.

3.2.2.2 Individual Challenges

The most commonly cited concern individuals report is fear of social and professional isolation (e.g., Crandall and Gao 2005; Kurland and Bailey 1999). Teleworkers miss out on three different types of developmental activities while working outside the conventional office space: interpersonal networking, informal learning that enhances work-related skills, and mentoring from colleagues and supervisors. Being away from the office may create a lack of visibility, and teleworkers fear that being out of site may limit opportunities for promotion, rewards, and positive performance reviews (Cooper and Kurland 2002). Even if managers initiate consistent personnel policies and establish a culture of strong communication, it is possible that teleworkers miss out on informal interactions that occur in the workplace. For instance, while it is entirely possible for all employees (teleworkers and non-teleworkers) to be included in a meeting, teleworkers may miss out on spontaneous conversations that happen while walking into the meeting or after the meeting is over. This reduces the amount of information sharing for teleworkers. Teleworkers may also miss out on learning that cannot be scheduled, and it is often easier to receive explanations in person rather than by telephone or email. This can potentially have implications for promotion, formal and informal training, and other opportunities (e.g., Duxbury et al. 1998; Illegems and Verbeke 2004).

Further, teleworkers often lose opportunities to develop social relationships with colleagues and to interact with new employees when working outside of the office (e.g., Bloom et al. 2013; Illegems and Verbeke 2004; Pearce 2009). Spontaneous conversation, humor, and frustrations frequently create bonds between employees, and are often missed from telecommuting (Kurland and Bailey 1999). Social interaction and perceptions of relatedness are important for job satisfaction and overall psychological well-being (e.g., Deci and Ryan 2000). Thus, it is no surprise that there are scattered reports of lowered job satisfaction (e.g., Golden 2006, 2007; Golden et al. 2008), employee loyalty, and organizational commitment (Illegems and Verbeke 2004; Kurland and Bailey 1999) among some teleworkers.

While telecommuting has been credited in the literature for aiding in balancing work and life, some reports indicate that telework actually leads to *more* issues with work–life balance. This is likely because additional family demands result from fewer boundaries between work and home life (Igbraria and Guimares 1999; Kurland and Bailey 1999). While mobile technology makes it easier to accommodate work and family, there are increased expectations from both domains; thus, individuals may end up working *more* (Towers, et al. 2006). As cited previously, Golden et al. (2006) found that the more extensively individuals telecommute, the more that family interferes with work, resulting in greater perceptions of family-to-work conflict. Telework has also been associated with increased exhaustion associated with higher work–family conflict (Golden 2012) and decreased partner's overall

satisfaction with life (Vittersø et al. 2003). Especially for those who engage in home-based telework, teleworkers may lose the restorative function of *being at home*, thus leading to negative outcomes (Hartig et al. 2007).

3.3 *When* to Telecommute?

A theme we continue to weave throughout this chapter is that there are varying degrees of telework. Although telecommuting continues to rise in prevalence, it should not be fostered indiscriminately because telework is not for every person, job, task, or organization. Instead, any telework arrangement should be driven by the preference of the individuals involved and the nature of the work to be performed. We discuss below several important person- and work-based considerations in deploying any telework program, but we do believe that at the crux of the matter is the job itself. A list of when telecommuting arrangements are expected to be most successful is provided in Table 3.4.

Table 3.4 Guidelines when to telecommute

Person-oriented factors	Work-oriented factors
Telework is suited for individuals who: Are trustworthy, dependable, and honest Have a strong performance record Can manage time and workload Have technological proficiency Have clear and consistent communication skills Have high self-management skills and self-discipline Have the desire and flexibility to work independently Have low social needs Have high autonomy needs Are results oriented Are good problem solvers Have demonstrated the ability to follow company policy and procedures Have a supportive family and home environment	A moderate amount of telecommuting may be most effective. When extensive telework is needed, ensure there are opportunities for socialization, mentorship, and information communication. If working from home, managers should be clear about expectations during the work day (e.g., extent of flexibility), and employees should be clear with family members regarding work boundaries. When possible, we believe flexible work schedules and autonomous work environments are beneficial, but within reason. We urge managers to use caution when tasks are highly interdependent. Additional training and communication technologies will be needed to ensure effective knowledge transfer and task completion. Managers must ensure that employees have the ICTs needed for the type of work required. Managers are largely responsible for creating a supportive culture surrounding telework. This includes educating teleworks and non-teleworkers about the benefits of telecommuting and ensuring transparency when it comes to norms and expectations.

3.3.1 Person-Oriented Factors

3.3.1.1 Demographics

One school of thought has suggested that individuals with certain demographic factors would be more likely to successfully telecommute. While this assumption may have been true at one point in history (e.g., the "working mother"), newer data suggests that telecommuting (at least in the United States) is not primarily driven by fixed demographics. For example, telework is utilized by both men (56 %) and women (44 %) in substantially similar proportions (World at Work 2011).[2]

3.3.1.2 Work–Life Balance

When entering into a telework arrangement, it is important for both the individual and the organization to consider family needs. Teleworkers experience higher levels of family-to-work conflict (e.g., Golden et al. 2006), as the home environment's demands are noticeably more salient. However, if the reduction in work-to-family conflict outweighs this, there may be an increase in productivity and decrease in employee stress.

Even when individuals express the preference to telecommute, the decision to assign telework requires that the demands and resources in the telework location (usually home) can be balanced with the demands and resources from work. If there are constant distractions from family while working at home, this will ultimately lead to reduced performance, satisfaction, and overall well-being. It is beneficial to telecommuters when supervisors require work–family separation while telecommuting, and this will ultimately result in less work–family conflict (Lautsch et al. 2009). Thus, we argue that telecommuting may be most effective when individuals can create boundaries between work and life. Developing a daily routine is advised for helping to define and maintain those boundaries, as well as establishing a beginning and end to the workday. It is also essential to have conversations with family members about interruptions (Hamilton 2002).

3.3.1.3 Social Needs

It is important to consider the employees' social needs and interpersonal relationships with colleagues and family members. Employees must consider how well they can work without social and professional interactions in the workplace. However, the recent rise of social network technologies such as Facebook and LinkedIn may challenge this view. Social networks enable employees to experience connectedness

[2] Research also suggests that both men and women experience some overlap between work and family when working from home; however, men experience more spatial overlap, and women experience more mental overlap (Hartig et al. 2007).

with both work and nonwork peers remotely, satisfying the need to feel connected. Some have blamed social network sites such as Facebook for presenteeism and loss of productivity. Yet, it is important to consider that the time spent on social networking may be a worthwhile investment if it is less time than would be spent socializing face to face. Further, the potential benefits of collaborating/socializing remotely with peers may foster communities of practice and informal learning that actually boosts productivity. This is especially important when considering the sophistication of ICTs for teleworkers.

3.3.1.4 Personological Fit

Although certain employees may naturally request telework, it is often up to managers to identify which individuals are suited for remote work. These decisions tend to be based on the manager's best judgment, rather than a formally validated selection tool. It is entirely possible that a senior employee does not have what it takes to be a successful telecommuter, while a newer employee may be a good fit for such arrangement. This can then potentially lead to issues of jealousy and fairness among employees (e.g., Cooper and Kurland 2002; Kurland and Bailey 1999). Thus, managers should use caution when determining who should telecommute. Pamela La Gioia, head of Telework Recruiting, suggests that managers must consider if individuals who want to telecommute are (1) self-starters, (2) very organized, (3) results-oriented, (4) comfortable with new technology, and (5) can push back when other life demands interfere with work (Fisher 2014). Teleworkers must feel comfortable making decisions without input from others, and it is also essential that these employees do not require constant supervision or opportunities for socialization. In sum, despite challenges in identifying individual suitability for telework, several characteristics of successful telecommuters have surfaced in the literature.[3]

3.3.2 Work-Oriented Factors

Factors surrounding the job itself and the work context are extremely important considerations for determining when to telecommute. We suggest that the nature of the task(s) to be performed can be examined in light of the six facets of telework proposed in Table 3.2: proportion, location, schedule, collaboration, synchrony, and autonomy.

[3] See also West and Anderson (2005), Abdel-Wahab (2007), O'Neil et al. (2009), and Fisher (2014).

3.3.2.1 Proportion

Perhaps one of the most commonly discussed features of telework effectiveness is the *amount* of time employees spend teleworking. As discussed, there is evidence that telecommuting and job satisfaction are positively related; however, telecommuting effectiveness may be best at *moderate* amounts. Research suggests that job satisfaction is curvilinearly related to the amount of time spent telecommuting (an "upside U relationship"; Golden and Veiga 2005; Virick et al. 2010). Therefore, job satisfaction initially increases with telecommuting, though satisfaction eventually declines with the highest amounts of telecommuting. Especially for creative tasks, such as new product development, it is best when there is a balance between virtual and face-to-face interaction (Coenen and Kok 2014). Managers are responsible for helping to create this balance and setting standards for the amount of telecommuting that should be done. Through establishing fixed goals with employees and constructing usage policies, a moderate amount of telecommuting can be maintained.

3.3.2.2 Location

The location of the telework creates varying levels of opportunity and challenge for organizational members. Kurland and Bailey (1999) provided a comprehensive summary of the advantages and challenges for society, organizations, and employees of four different locations of telework: home-based, satellite offices, neighborhood work centers, and mobile work. Our analysis closely parallels the work of Kurland and Baily, with a few minor modifications. As can be seen in Tables 3.5 and 3.6, telework locations share common advantages and challenges for individuals and organizations, but others are unique to the location. For instance, home-based telework introduces a number of additional concerns such as work–family balance and at-home distractions that are not problematic within the other locations, yet home-based telework is also credited for promoting work–life balance and saving time, money, and stress that might not be possible in other contexts. Therefore, it is important to examine the costs and benefits of telework location within a broader scope, considering the other telework factors. For example, mobile work may create some sense of professional and social isolation for individuals on a full-time basis, but this need not be the case if mobile work is on a part-time or as-needed basis. The appropriateness of the location is also dependent on the other telework considerations of schedule flexibility, synchrony, autonomy, and collaboration.

3.3.2.3 Schedule

While autonomy in general is an important consideration for telecommuters, schedule flexibility is of particular importance. In the beginning of this review, we cautioned readers to not use flexi-workers and teleworkers synonymously because they are indeed different. A teleworker works outside of the confines of the traditional

Table 3.5 Advantages of telecommuting locations[a]

	Home based work	Satellite offices	Neighbourhood work centers	Mobile work
Advantages for organizations				
Saves money	X			X
Greater productivity	X	X	X	X
Lower absenteeism	X			X
Better morale	X	X	X	
Fewer office interruptions	X			
Reduced overhead	X			
Wider talent pool	X	X	X	
Lower turnover	X	X	X	
Regulation compliance	X	X	X	
Customer proximity		X	X	X
Reduces unnecessary meetings	X	X	X	X
Advantages for individuals				
Less commuting time	X	X	X	X
Cost savings	X	X	X	X
Less stress	X	X	X	X
No need for relocation	X	X	X	X
More autonomy	X		X	
Schedule flexibility	X			
Fewer workplace distractions	X			
Absence of office politics	X		X	X
Work/life balance	X	X	X	X
Enhanced job satisfaction	X	X	X	X
Comfortable work environment	X			
Opportunities for disabled individuals	X			

[a]Tables 3.2 and 3.3 are modeled closely from Kurland and Bailey (1999)

office environment, but the flexibility of when the work is conducted can vary. For instance, a stock broker may work from home but is bound to his desk when the market is open, between the hours of 9 am and 4 pm, and this is the same for his in-office counterparts, whereas someone in insurance sales, whether a teleworker or not, may be able to modify his schedule as needed, sometimes working 8 am–4 pm, 9 am–5 pm, or 10 am–6 pm.

In general, research demonstrates that flexible work schedules are positively related to job satisfaction and employee productivity and negatively related to absenteeism, stress, and burnout (Baltes et al. 1999; Grzywacz et al. 2008). Specific to telecommuters, Hill et al. (2010) found in a global sample of over 24,000 respondents that benefits of working at home were enhanced when combined with schedule flexibility. In fact, schedule flexibility was a stronger predictor of work–life conflict than working at home. Golden (2012) also found a negative relationship between nontraditional telework (extent of telework conducted during nontraditional

Table 3.6 Challenges for telecommuting locations

	Home based work	Satellite offices	Neighbourhood work centers	Mobile work
Challenges for organizations				
Performance monitoring	X	X	X	X
Performance measurement	X	X	X	X
Managerial control	X	X	X	X
Mentoring	X	X	X	X
Fairness issues	X	X	X	
Synergy	X		X	X
Informal interaction	X		X	X
Organizational & Virtual culture	X	X	X	X
Organizational loyalty	X		X	X
Schedule maintenance	X		X	X
Work coordination	X		X	X
Communication	X			X
Internal customers	X	X	X	
Expenses and technology	X			X
Security issues	X		X	X
Challenges for individuals				
Social isolation	X		X	X
Professional isolation	X	X	X	X
Organizational culture	X		X	X
Reduced office influence	X	X	X	X
Work/family balance	X			
Informational interaction	X			
Home environment	X			
Longer hours	X			
Access to resources	X	X	X	X
Focusing on work	X			
Technological savvy	X			X

business hours) and time-based and strain-based family-to-work conflict. Thus, it is possible that schedule flexibility offsets some of the concerns for telecommuters regarding family interference with work. However, we recognize that the availability and success of flexible schedules is dependent on the type of work that is conducted.

3.3.2.4 Collaboration

Regardless of the factors previously discussed (time, flexibility, and location), certain features of the job have the capacity to make telework more or less successful. For instance, some jobs are simply not feasible for teleworkers and require physical collocation. If an employee must be physically present to complete a job function,

then telework becomes less viable; for example, manufacturing, surgery, and farming all require the employee to be in physical proximity to a product or tool, obviating the possibility of telework.

Furthermore, jobs where employees can do some or all of their work alone and require little collaboration may be appropriate for telecommuting (e.g., Abdel-Wahab 2007). Task interdependence has been cited as an important predictor of telecommuter satisfaction (Golden and Veiga 2005) and productivity (Turetken et al. 2011). It seems that when tasks are highly interdependent, individuals are less satisfied and productive. This calls into question the suitability of telecommuting for tasks that require a high degree of interdependence.

When tasks are interdependent, the performance and outcome of one task is affected by, or needs interaction with, the performance and outcome of other tasks. For example, project management and event planning require a high degree of task interdependence because every individual component of the project is reliant on every other component, whereas something like IT support may require less task interdependence. While telecommuting may certainly be *easier* when task interdependence is low and the task is not already digitally mediated, this is not to say that telecommuting is *impossible* when task interdependence is high. However, "the greater the interdependence between tasks, the greater the amount of communication and coordination effort required, the greater the chance of breakdown and the greater the likelihood of loss of control" (Kumar et al. 2009, p. 644). Thus, it is important to recognize that when tasks are extremely interdependent, additional communication, collaboration, and control will be needed, and richer communication media will be essential for successful telecommuting. This highlights the importance of the six considerations of telecommuting that we proposed in Table 3.2. While it may be possible for tasks that are highly interdependent to be successfully completed remotely, managers should use discretion when determining proportion, location, and flexibility of telework arrangements under these circumstances. Furthermore, more sophisticated ICTs are needed when work requires extensive collaboration.

3.3.2.5 Synchrony

From a technical perspective, teleworkers must have the necessary ICTs to be effective outside the office. However, this will depend largely on the degree to which employees must work in unison (concurrently, at the same time) or serially (subsequent to one another, or "taking turns"). In our experience, most work does not strictly require real-time collaboration; instead, work is frequently completed by one person, passed off to another, and then volleyed back and forth or on to the next party. There is a clear parallel for synchrony in traditional work environments: work that is synchronous (concurrent) likely occurs around a table or in a meeting, whereas work that is asynchronous (serial) likely occurs at a single desk.

Thus, the major consideration is the extent to which work necessitates a virtual "meeting around a table" to work with other employees in real time. There are many

technologies that enable this. This may include, but is not limited to, high-bandwidth virtual private networks, content-sharing capability, instant messaging, and online conference capability (e.g., Pearce 2009). The technical conditions for telework should correspond to the same technical conditions available for conventional work (e.g., Fetzner 2003). Initial technology testing, training sessions, supervised work periods, and effective communication between the telecommuter and office are effective techniques to ensure technology comprehension and proper utilization.

3.3.2.6 Autonomy

As previously mentioned, schedule flexibility is an important consideration for teleworkers, but *how* and *when* the work is completed in general is an significant factor for successful telecommuting arrangements. For instance, someone in sales who has an autonomous work environment may not only choose when she works but also how she addresses her clients (e.g., order, style, frequency, tone, etc.), whereas someone in a more controlled environment may have specific instructions on how and when to interact with clients (e.g., scripts, schedules, and restrictions). Across a variety of contexts, researchers have demonstrated the importance of autonomously-directed behavior (e.g., Weinstein et al. 2012). Thus, we expect the telecommuting environment to be no exception; autonomous behavior, when possible, should be associated with greater telecommuting success.

Research appears to support this assertion. Autonomy has been associated with higher job satisfaction, quality of life, and job performance, as well as lower turnover intentions, depression, and work–family conflict (Golden et al. 2006; Hornung and Glaser 2009; Kossek et al. 2006). Thus, telecommuting arrangements that provide some flexibility, autonomy, or job control seem to be the most effective. But again, we urge readers to consider this in light of the other important considerations addressed.

3.4 *How* to Successfully Telecommute?

Telework requires both organizations and employees to make accommodations to the way work is done and to accommodate changes in others. Consistent with other reviewed literature, we suggest that telework arrangements can be navigated successfully by fully addressing each of the following seven critical factors. This list, the seven "Cs" of successful telework, has been inductively derived as a result of our extensive research and applied experience. A summary of our recommendations for successful telework arrangements is provided in Table 3.7.

#1: Collocation of Labor

Unsurprisingly, the most important consideration for telework is the extent to which labor must be collocated. Some tasks require complete collocation, that two

Table 3.7 Recommendations for successful telework arrangements – The 7 C's

	Considerations
1. Collocation of labor	Determine what job *functions* lend themselves to telework
	Part-time telework arrangements seem to be most popular
	Asynchronous tasks are usually candidates for telework
2. Comfort with ICT	Use only the level of technology needed. A personal computer, internet access, and a phone are typically all that is required
	All stakeholders should be comfortable with the ICT: managers, coworkers, customers, etc.
3. Conflicts & compliments with work	Investments to set up a home or mobile office will likely pay for themselves in increased productivity
	Ensure that teleworkers' increased flexibility is not taken advantage of
4. Cohesion, support, trust	Enable employees to virtually connect with one another using social networks, such as Facebook or LinkedIn
	Ensure teleworkers have multiple contacts in the company
	Ensure there is a contact that the teleworker can voice any concerns or complaints to
5. Calendars, schedules, & structure	Utilize a shared calendar that shows when individuals are busy or available
	Provide only the structure that is absolutely necessary. Hours "on" should only be mandated if driven by a business or workflow need.
	Train managers on how to coordinate/manage teleworkers
6. Clear objectives	Hours "on" should be explicit, not assumed
	Performance criteria should be clear
	Consider using an online project planner, such as Basecamp
	Make clear the benefits of telework to all involved parties
7. Climate & culture	Ensure that all employees support any telework assignment
	Make clear the norms surrounding communication (e.g., e-mail reply, phone availability, instant messenger availability)
	Make clear the business case for telework to all stakeholders

or more workers be in the presence of each other or of some technology. Most manufacturing assembly tasks require individuals to physically operate machinery and handle raw materials, which clearly obviates the possibility of telework. Other tasks require little or no physical collocation. Many jobs in information technology (IT) enable employees to work from wherever they have access to a computer and Internet connection.

In the examples above, it is clear whether telework is appropriate. However, the examples above are somewhat misleading because the critical determinant of whether to telecommute happens not at the broadest *job* level but at the narrower *job function* level. In manufacturing assembly–type jobs, all job functions have to be collocated, but that is not the case with the vast majority of jobs. Instead, some job functions will be more appropriate for telework, while others less so. In the example of the IT employee above, job functions such as programming and customer service likely lend themselves to telework because physical collocation is not a necessary condition of performing the functions. However, if the employee were also responsible for server maintenance or physical network upgrades to a particular location, those particular job functions would NOT lend themselves to telework.

Thus, the extent to which job functions require workers to be physically collocated (either with each other or with a physical location) will have a strong impact on whether, when, and how individuals can telecommute. We suggest that organizations consider telework opportunities for any of the job functions that do not necessitate physical collocation. For example, a manufacturing technician may need to be in a shop to assemble a particular product; however, if part of the job also involves putting together architectural drawings, determining worker schedules, or auditing paperwork, these tasks should be considered candidates for telework. When having these discussions, it is also important to consider how telework will impact any project teams of which the potential teleworker is a member (Feldman and Gainey 1997).

We also suggest that telework need not be an all-or-nothing arrangement (Bailey and Kurland 2002). Studies show that most individuals who work from an office prefer to have the option to work several days a week from home, but would still like to maintain face time. The norms for this will continue to change faster than research can keep up. Nevertheless, it is likely that hybrid programs will continue to grow in popularity and that a balance of telework and face-to-face work will be situation specific (Coenen and Kok 2014).

#2: Comfort with Communication and Coordination Technology.

Frequent, clear communications and the structure that supports them provide the foundation to telework (Pearlson and Saunders 2001). Thus, being comfortable with the technology needed to effectively communicate and coordinate is another critical factor in considering telework arrangements. We have intentionally avoided any in-depth discussion of particular ICT because the technology changes so rapidly. It is becoming increasingly clear that mastery of technology for remote coordination is a necessary condition for telework.

It is tempting to consider only the teleworker's level of tech savvy, but this could be a mistake. It has been suggested by some that managers who oversee teleworkers must be familiar with the technology needed to understand their teleworker's daily pace (Ting 1997). We go beyond this: managers must be MORE comfortable with the technology than their teleworkers because managers often serve as the interface between office personnel and remote personnel. In this role, managers may have to orient non-teleworkers to the habits and workflow of teleworkers.

Regardless of the technology used, there must be a space for knowledge management (Coenen and Kok 2014). Individuals must be able to identify, preserve, and share the insights and knowledge they gain from their daily activities. They must also be able to store and retrieve communications that relate to project work and responsibilities. This will often be intertwined with communities of practice and social functions (Taskin and Bridoux 2010). Teleworkers must have the resources and support to interact and build a base of knowledge that fosters their own development and the organization's mission. It has been suggested three factors determine knowledge transfer in a telework environment (Taskin and Bridoux 2010): communication (how people exchange information), frequency (how often they communicate), and human resource management principles (the extent to which the organization presents needed resources).

We suggest that technology for the sake of technology is to be avoided. Instead, only the technology that is needed should be adopted. For example, if periodic discussions surrounding a project suffice, it may be counterproductive to require web conferences or videoconferencing. Employees should also have a hand in the technology that is used, as it will be their responsibility to become familiar with it. This is advisable because they will be more likely to adopt it if they have an interest or stake in the decision.

#3: Conflicts and Complements with Nonwork

One challenge to telework workflow is the interference of nonwork events. If employees are working from their home or from a public space (e.g., coffee spots), there are more distractions and less supervision. This makes it easier for the employee workflow to ebb. One way organizations can counter this fall back is by providing the resources employees need to set up a home office. Covering the cost of office furniture, technology, and supplies enables individuals to establish a base of operations, much like in a traditional office. Further, providing these supplies sets up an informal expectation that individuals will not always be working from subprime locations (e.g., bed, bathroom, outdoors). Managers may also suggest that a particular room be dedicated to the home office, as those who do so report less spillover from nonwork life (Hartig et al. 2007). It is important to keep in mind that greater autonomy is often (but not always) key to mitigating nonwork interference (Golden 2007).

On the other hand, many factors of the nonwork environment can actually foster productivity. A home-based office cuts out many productivity reducers that have been a hallmark of traditional offices for generations. Teleworkers can begin work earlier, as they lack a commute. They can work with fewer interruptions from coworkers. They may also be more readily available at flexible hours when business decisions are critical, such as early morning. In addition, family emergencies that would normally curtail an entire day of productivity can be mitigated by teleworkers (Major et al. 2008); by being onsite or being able to work on the move, teleworkers can recoup the losses that traditional commuters might not.

There are a host of additional nonwork benefits to telework. For example, telework can be used as an incentive. The number of days employees prefer to telework is double what they typically do (Major, et al. 2008). Thus, the opportunity to telework (or telework more) may provide a low-cost incentive to boost productivity and secure top talent. However, ensure that the telework arrangements are in line with the greater organizational vision and goals, otherwise the incentive may quickly disappear (Illegems and Verbeke 2004). We suggest that organizations make resources available to teleworkers to navigate work/non-work balance. It may be intrusive to mandate certain types of training. However, providing material that dispels stereotypes surrounding work–life balance, informs about expectations, and links resources may help new teleworkers adjust (Major et al. 2008).

#4: Cohesion, Support, and Trust

While being away from the physical base of operations, support and trust are critical success factors for telework (Kowalski and Swanson 2005). If the work environment is perceived as supportive by telecommuters, their telecommuting satisfaction will be enhanced (Hartman et al. 1991). In addition, when employees trust their managers, they have better reactions to telecommuting (Baker et al. 2006a). In part, cohesion, support, and trust can be fostered through formal means. Prior to beginning telework, managers should create a common understanding among all employees concerning the telework arrangements. Maruyama and Tietze (2012) recommend briefing events, workshops, and the sharing of documentation in order to lessen any anxieties from coworkers and supervisors. It is also important to convey to all employees the vision surrounding telework and the positive potential for telework to be successful (Fetzner 2003).

Cohesion, support, and trust are also built informally. Supervisors should keep informal lines of communication open because it improves outcomes such as identification with the organization and trust (Timmerman and Scott 2006). Supervisors should ensure their subordinates have more than one contact, especially for critical tasks. Multiple, informal communications that happen frequently can boost helping behaviors, feedback, and reduce role overload (Lautsch et al. 2009). Given the importance of effective leader communication and relationship-oriented behaviors in telework environments (Ting 1997), it is advisable for managers to regularly work to improve their communication skills.

Social interaction with coworkers is also important to maintain because informal workplace relationships breed coworker liking, commitment, and job satisfaction (Fay and Kline 2011). Research has shown that employees who feel connected to others and perceived as competent and valued have higher levels of performance (Cerasoli and Nicklin 2015). These relationships may not develop as readily when employees are not physically collocated. An extensive body of research shows that teams that experience a higher sense of cohesion, or belongingness and positive regards, well-being, and performance soar. In addition, social interaction among employees is often important for informal learning (Cerasoli et al. 2015) and interpersonal networking initiatives (Dahlstrom 2013). Social interaction is also important because frequent socialization helps break down cognitive and interpersonal biases that often hinder effective group telework (Walther et al. 2005). This is all the more important for teleworkers in high-intensity jobs (Thatcher and Zhu 2006). Managers should encourage, but not mandate, opportunities for interaction (Fay and Kline 2011), such that supervisors should use an information-sharing approach with telecommuters rather than a tight monitoring approach (e.g., Lautsch et al. 2009).

#5: Calendars, Schedules, and Structure

As managers, it is often challenging to relinquish control, especially when it comes to scheduling. Yet, research has shown it is often beneficial to allow employees to set their own schedules. For example, employees who have more control over their work schedule have less nonwork conflict, greater job satisfaction, and higher well-being (Moen et al. 2008).

Provided deadlines are met in a timely fashion, we recommend supervisors allow employees to self-regulate their schedules in a way that works with other employees of the organization. Part of the need for telework is that employees can better meet their own individual needs and preferences while upholding work obligations (Golden 2012). Periodic fixed teleconferences are a good idea, provided they occur only as frequently as updates are needed. These can also help managers keep appraised of their teleworker's progress and activities (Hartman et al. 1991). Having calls too frequently may encourage employees to "make up" material for the call, while having them too infrequently may force calls to take too long.

The level of structure provided to the employee will also depend on the task and the industry (Dahlstrom 2013). For example, public-sector employees may be used to more structure in the workplace, and thereby in telework more may be appropriate. Similarly, flexibility may be productive for creativity-type tasks but not so for more routine ones (Dutcher 2012).

Further, no two telework arrangements are identical because each teleworker has unique needs and resources. Thus, there is a need to recognize there are different types of remote work (Morganson et al 2010). We suggest managers be given flexibility in running telework programs because a "one-size-fits-all" approach is often suboptimal (Kurland and Bailey 1999). For example, working parents may telecommute to accommodate school hours, while working students may telework to accommodate coursework hours; it is likely the same arrangement would not suffice for both.

Managers may also need to develop new skill sets surrounding coordination of teleworkers (Lautsch et al. 2009). Teleworkers in multiple time zones/countries and with multiple competing obligations require a different set of management skills than do conventional workers (Kurland and Bailey 1999). This includes factors such as understanding travel times, coordinating with multiple time zones, patience with communication lag, understanding of different cultural norms for communications and work, and even familiarity with multiple languages. Supervisors should be attuned to all these issues, beyond those of workers in multiple flexible arrangements (Lautsch et al. 2009).

#6: Clear Objectives

Organizations should make work and business expectations/objectives clear to the employee (Pearlson and Saunders 2001). Some employees work well with a great deal of ambiguity, while others do not. This is not to say that organizations must spell out every task that an individual is to perform. Instead, we suggest the organization be clear about expectations from the job function level up. Thus, a clear vision should be articulated that includes accompanying mottos and symbols. Subordinate to the vision, there should be very general goals for the organization to attain. Then, there should be some link between the individual's job functions and these goals.

The standards for evaluating performance should also be clear (Hartman et al. 1991), although they need not be overly formal. As others have, we recommend performance management by outputs rather than inputs (Kurland and Bailey 1999). Provided employees meet their objectives or goals by ethical means in a timely fashion and without disturbing the workflow of others, employees should be left to

their own devices to attain their goals. This has the added benefit of incentivizing employees to work more efficiently. Importantly, supervisors should make a concerted effort to provide feedback to teleworkers (Virick et al. 2010). In some cases, it may be as simple as a verbal "everything is looking good." Or, it may be a more formal, objective process. Either way, feedback is critical.

Organizations should also make clear the expectations of the telework program (Abdel-Wahab 2007). All employees, not just those teleworking, should be made aware of who will be teleworking and how they will do so (Kurland and Bailey 1999). This helps clarify cross-role expectations and break down biases and group polarization effects that naturally occur between two distinctly different groups (Cooper and Kurland 2002). Specifically, it has been suggested that interdependent teams decide upon (a) the appropriate use of collaboration technology, (b) the need to be clear in written communication, and (c) how responsive members must be (Thatcher and Bagger 2011).

Of course, telework programs require a substantial degree of preparation. It may be a good idea to pilot a telework program first so that potential pitfalls can be discovered and removed prior to the full program deployment (Illegems and Verbeke 2004). After this, training should be made available to orient both teleworkers and non-teleworkers to the program. Finally, the benefits of the telework program should be made clear to both the telework employee and others at all levels in the organization. A marketing strategy that shows how telework is beneficial to others in the organization may increase acceptance of the program and desire for others to telecommute (Anderson et al. 2001).

#7: Climate and Culture

Finally, organizations should periodically assess the climate of the workplace. For both the teleworker and non-teleworker employees, there is a great deal of autonomy, initiative, and patience required. Telework requires, and will flourish in, a climate of commitment and trust (Martínez-Sánchez et al. 2008). These types of tasks require a great deal of buy-in from all stakeholders (Kurland and Bailey 1999), and as such, the climate must be periodically assessed (informally or formally).

If employees need to be available to one another on a moment's notice, then it should be understood that employees will answer the phone during business hours. Or, it may be the case that e-mails need timely responses, and thus the expectation is that e-mails will be monitored and returned quickly. In a traditional workplace environment, norms (the unspoken rules for behavior) develop somewhat quickly, given frequent casual conversations and face-to-face discussions. However, these are naturally less frequent in a telework situation.

One way to develop these norms is to simply give them more time. When the pace or urgency of work is only occasionally high, periodic phone calls and e-mails will help the individual gradually learn unspoken expectations. However, when higher frequency and urgency coordination is necessary, it may be a good idea to make unspoken expectations explicit. Another way to develop these norms is through formal orientations, posters, handbooks, and conversations (Thatcher and Bagger 2011). While these may not be extensive, they are recommended to have some presence for reference purposes at the very least.

3.5 Conclusion and Future Directions

As technology continues to advance and new devices are introduced into society, it is important to consider what this means for the telecommuting workforce. Telecommuting once meant lugging files back and forth from the office, but now most companies have paperless documentation methods. Employees can now conduct their meetings without ever leaving their doorstep. High-quality technology permits teleworkers to replicate a company's website and resources from home, and enables teleworkers to stay up to date, access files, and effectively communicate with coworkers (Greer and Payne 2014). As companies continue to introduce new measures of communication, it is important to note its impact on the telecommuter.

Security issues are likely to shape the future of telework. According to a 2012 survey, over 90 % of organizations experienced a loss of either confidential or sensitive resources in the past year (Ponemon Institute 2012). This leakage could be significantly reduced or eliminated by IT security training, a process that two-thirds of telecommuters in the United States did not receive in 2011 (Staples). Each time a person accesses sensitive information from a Wi-Fi hotspot or unsecure wireless connection, that individual is risking the safety of that data. A proper training would instill telecommuters with the confidence and skillset to protect the company's critical data, disable file sharing and automatic connections, and successfully hide information from hackers.

In addition, new technologies that capitalize on multiple modalities are also likely to drive telework arrangements. Overall, usage of multiple electronic devices (e.g., smartphones, smartwatches, fitness wearables) is at an all-time high, as one would expect with the growing amount of accessible devices on the market. For example, as of 2013, 58 % of surveyed U.S. employees would willingly use wearable technology to aid job performance (and 12 % would actually feel disadvantaged if their coworker had wearable technology; Kelton 2012). Laptops, smartphones, and tablets are all being used alongside the traditional desktop because working on-the-go no longer restricts the worker to his or her home. Teleworkers are feeling more comfortable with several devices because networks have become increasingly mobile friendly. With the appropriate job circumstances and technical training, telework environments will continue to become more commonplace and favorable.

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